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A STUDY OF LAND SETTLEMENT IN THE PRINCE GEORGE-SMITHERS AREA, BRITISH COLUMBIA

By

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In Co-operation with

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SUMMARY

The study was undertaken in order to contribute to the knowledge of the process of land settlement. Raw land physically suited for agriculture is available in the area. The soil survey has classified 832,462 acres of land as arable. The census of 1941 found that 324,235 acres were in farms and 68,115 acres were improved. It was apparent, therefore, that there was an opportunity to expand both the number of farms and the improved acreage on farms.

Agriculture development during the last Census decade had been slow. The number of farms had increased from 1110 to 1205; improved acreage had increased 14 acres per farm. Proportionately livestock numbers had increased quite markedly but the total numbers per farm were small. Cattle income had amounted to only $272 per farm in 1940.

Eighty-two per cent of the operators of farms in the study were owners. The analysis of method of acquisition suggested that many farmers preferred to purchase improved land rather than clear and break their own. It was probable, then, that the cost of improving land was often greater than capitalized net return of the improved land.

The rate of clearing by hand had been slow, amounting to two to four acres per farm per year. The cost of custom clearing and breaking had averaged $39 per acre on all types of covers.

The farms were classified into eight commercial types according to the source of farm returns. Livestock constituted the principal source of income. Therefore, the livestock and mixed farm types accounted for one-half of the farms. Income from work performed off the farm was the major source of income on 15 per cent of the farms. These were classified as part time-farms.

Grass occupied about two-thirds of the improved land area, and was mainly cropped on or used as pasture. Comparatively small acreages were devoted to seed production.

Real estate made up one-half of the farm capital which ranged from $7,000 to $12,000 per farm. Liabilities were less than ten per cent of total assets. Gain in net worth during the period of settlement averaged $340 per year. It was accounted for mainly by gain in the value of real estate. Rate of gain was not associated with high net worth at the start. The specialty-product farms had made the greatest gains in net worth.

The average value of farm dwellings was $793. Fifty-three per cent were constructed entirely from logs. Living expenditures averaged $699 per farm of which one-half was spent for food. In addition perquisites averaged $461 per farm.

Although schools, churches and medical facilities were provided many settlers were quite far from them. The average distances to high school, doctor and hospital were, respectively, 13, 15 and 15 miles. About one-half of the farms had a car or truck, three-fourths had a radio, very few had telephones.

The analysis of farm returns indicated that livestock accounted for about two-thirds of total farm production. Intensity of production varied but five or six acres per productive livestock unit was typical. Cattle were the important livestock enterprise and two-thirds of the crops were in the form of hay.

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Labour efficiency appeared to be associated with the farm types that included livestock. Horses were the usual source of farm power.

Farm income per farm in the area appeared to be about one-half of the provincial average. The analysis indicated that total income on livestock, mixed and part-time farms tended to average from $800 to $1200. However, on the part-time farms non-farm income was large and labour earnings were small while the reverse was true for the livestock and mixed farms. The forage seed, whole milk and vegetable seed producers netted the highest labour earnings and total income.

The average family farm surplus was very small or negative on most farm types. Exceptions were the forage seed, whole milk and vegetable seed producers.

The analysis of farm surplus on the livestock and mixed farm types revealed that livestock, improved area and farm surplus per farm were closely related. The marginal farm with respect to farm surplus in 1943-45 appeared to be as follows: Prince George, 19 productive livestock units and 63 acres of cropland; Vanderhoof, 21 productive livestock units and 90 acres of cropland; Smithers, 29 productive livestock units and 135 acres of cropland; Francois Lake, 37 productive livestock units and 135 acres of cropland.

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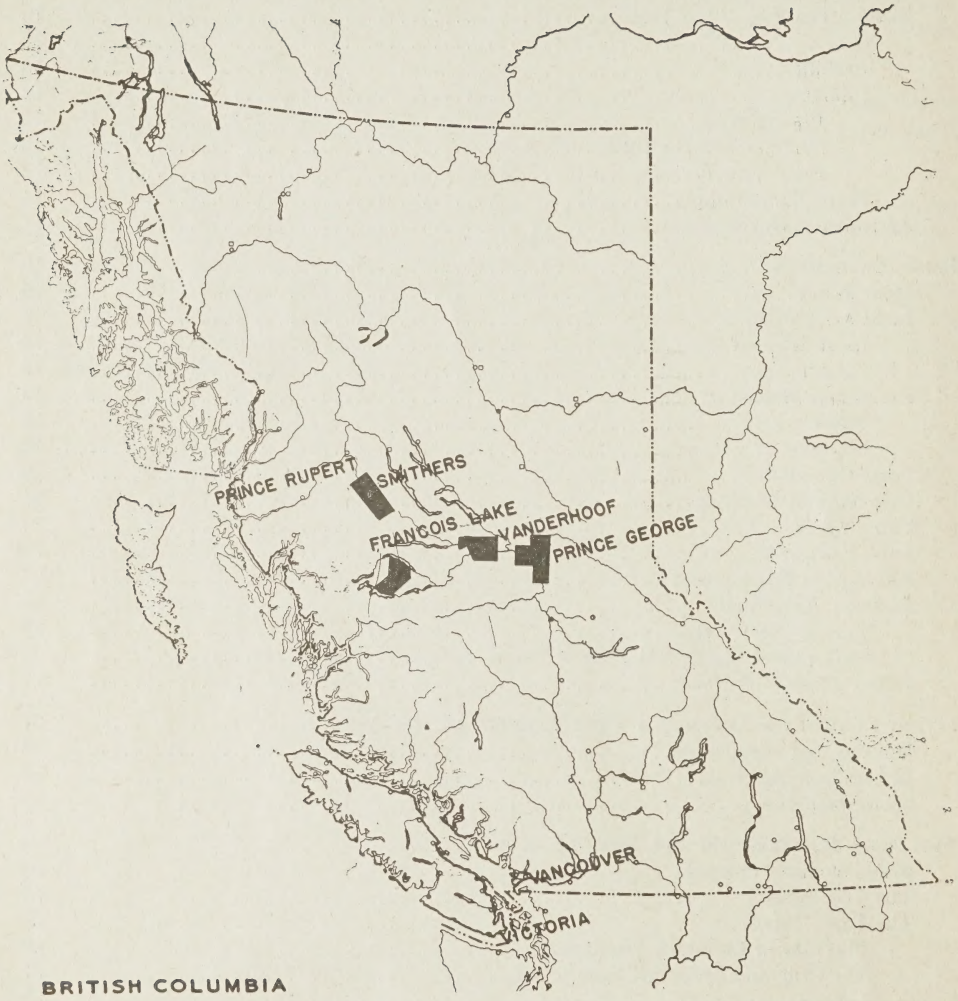

Location of the Farm Business Study 1943–45. Dominion Department of Agriculture co-operating with The University of British Columbia.

A STUDY OF LAND SETTLEMENT IN THE PRINCE GEORGE-SMITHERS AREA, BRITISH COLUMBIA

By

W. J. ANDERSON [1]

INTRODUCTION

Considerable areas of forested land in north central British Columbia are physically suited for agricultural development. Some of this land is already in farms but fairly extensive tracts are still part of the public domain. To convert it to agricultural use will involve large capital expenditures. It is important that land policy be based on the potential net income of individual farms, that is on the earning capacity of farms which have been formed into economic units on the basis of land use well suited to the region and management practices designed to make effective use of the capital and labour of their operators. A study of settlement experience in similar or contiguous areas may be revealing in that regard.

The history of the free homestead in Canada and the United States has shown that the opportunity to take over virgin land and develop it has been sufficient inducement to attract settlers. A man who obtained a parcel of virgin land free or for a nominal sum could hope to build it gradually into a farm and to accumulate capital in the form of land values as the community developed. This process solved the problem of the capital requirement for land for those persons with limited resources who wished to get started in farming. It provided an opportunity to substitute their own labour and ingenuity in developing new land for the capital which would be required to purchase an established farm.

The policy of free homesteads, though it was successful in promoting settlement, operated favourably for the settler only when the quality of the land was such that the quantity granted to the individual provided a better than marginal farm unit and could be developed relatively inexpensively to the stage where it returned an income. The difficulty then, neither always realized nor within the scope of the settler's knowledge, was the appraisal of the economic potentialities of new land and the cost of development. As a result there were attempts on the part of many settlers to operate uneconomic farm units. Perhaps the settlers who faced the greatest difficulties were those with little capital who tried to develop forest land. Instead of paying for clearing and breaking they were forced to use their own labour, accompanied by a relatively low level of living, for many years, before sufficient land was under cultivation to yield an adequate living.

Modern machines offer an alternative to the slow and arduous hand labour method of clearing and breaking forested land. They do require a large capital investment, however, which means that most farm operators must use them on a custom or rental basis. Moreover, even when the machines are available for hire, a large outlay must be made in order to bring sufficient land under cultivation to provide an adequate family living. This fact has been generally recognized and has led to the demand that in the development of forested land the state should assist in making available the minimum capital requirement needed for a farm that would provide a decent living for a farm family. As a result land clearing

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machinery is going to be made available to the farmers in British Columbia probably with payment for the work amortized over a period of years. This form of assistance can be economically sound and considerably more satisfactory than food and clothing relief which settlers have at times been forced to accept.

PURPOSE OF THE STUDY

Forested land may be classified as arable on the basis of soil, topography and climate if it compares favourably in those respects with areas where farming is being carried on. It is thereby implied that the land is marginal as well, that is, that the products which can be produced can be sold at a price which will at least equal costs of production.

It is difficult to predict changes in prices and methods of production which may alter the net income from land under its present use. If it can be assumed, however, that economic conditions will remain somewhat stable then the physical factors can be used to determine the suitability of raw land for settlement. That is to say, raw land similar with respect to soil, topography and climatic conditions to improved land which is being successfully farmed, may reasonably be declared suitable for settlement.

Some factual data concerning settlement progress, living conditions and farm income on improved land are necessary if the factors associated with success are to be determined. The purpose in undertaking this study was to assemble those data in the Prince George-Smithers Area.

Specifically the study aims:—

(a) to briefly state the conditions of soil, climate, arability and farm water supply associated with the area.

(b) to describe the agricultural development in terms of roads, markets, types of farm, land use, financial gains and progress in bringing the land under cultivation.

(c) to describe conditions of living that were found associated with land settlement in the area.

(d) to describe the farm business organizations as they appeared during the year of study.

THE SOURCE OF DATA

The data for this study were obtained mainly by trained enumerators who interviewed farmers in the areas. The farmers co-operated by supplying details of their farm business. Each record included information for a single farm of financial transactions for one year, land utilization, livestock, history of farm development, cash living expenditures and social facilities. The field survey was conducted during the fall of 1944 and the summer of 1945. Consequently, the business transactions recorded are for the crop year 1943-44 in the Prince George and Vanderhoof districts and 1944-45 in the Smithers-Telkwa and Francois Lake districts. A total of 263 records was obtained, which was a sufficient number to provide the data required for this study.

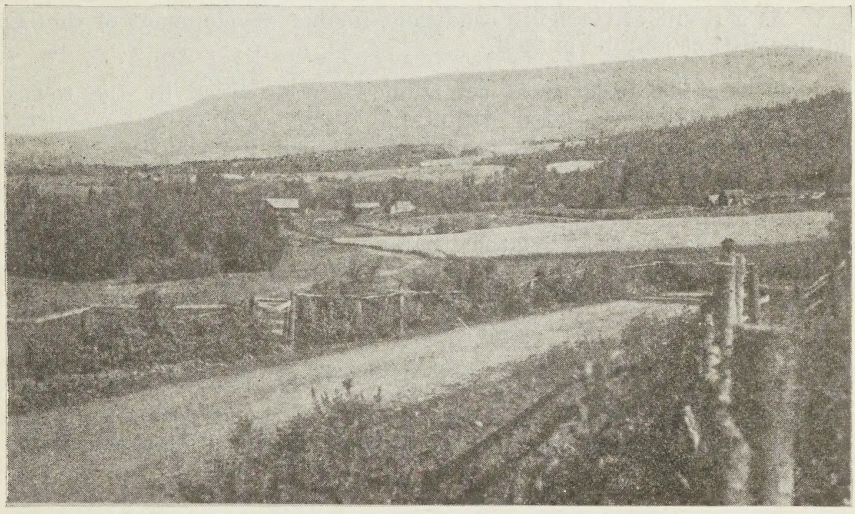
THE STUDY AREAS

The area covered by the study extends along the line of the Canadian National Railway from Prince George on the east to Smithers on the west. Settlement is not continuous throughout but is found in blocks. As a consequence the farms studied were taken from four fairly well defined districts, namely, Prince George, Vanderhoof, Francois Lake and Smithers-Telkwa. The numbers of farm records obtained in each of these districts were respectively, 83, 76, 19 and 85.

The Prince George district centres on that city. It runs south along the east side of the Fraser River to Redrock and west along both sides of the Nechako River, extending north to the Salmon Valley and southwest to Mud River.

The soil of the district has been classified as a grey wooded type with a texture varying from a clay to a sandy loam. It is naturally covered with a forest growth which varies from light poplar to heavy pine and spruce. Topography is level to undulating with few stones.

The most important land use is the growing of forage crops. These are harvested mostly as hay or pasture and marketed through livestock. There has developed in recent years an alsike seed industry. This is a crop which is well adapted to existing conditions of soil and climate and the indications are that as a farm enterprise it is likely to increase in importance.



The rolling terrain in the Bulkley valley near Smithers.

The Vanderhoof district is one of grey wooded and grey black transition soils. Generally topography is favourable and stones are relatively few. The annual rainfall is less by several inches than at Prince George. This gives rise to important differences in land use, chief of which is the larger proportion of the cultivated land devoted to cereal crops. Emphasis is nevertheless still on livestock as a source of farm income.

In marketing facilities the community is unique in that it possesses the only grain elevator in the four districts. The town is quite adequate in other respects also and provides the facilities usually found in a rural district.

The district at Francois Lake from which the farm records were taken is 20 to 45 miles from the railroad at Burns Lake village. It is reached by a government ferry across the lake from the hamlet of Francois Lake. The community is self-contained to the extent that it is provisioned by its own local stores, has a co-operative seed cleaning plant and social facilities in the form of schools and community halls.

The growing of forage crops, chiefly timothy, is the principal land use in the district. The reason is that the crop is well adapted to the degraded black soil and the natural conditions of climate and rainfall.

The Smithers-Telkwa district is in the Bulkley River valley and extends from Smithers in the north as far south as Houston. Farms are principally of the mixed livestock type although some specific conditions have allowed the development of a few special-product farms, among them vegetable seed growers, milk producers for the Prince Rupert whole milk market and poultry raisers.

Most of the farms are located on either a degraded black loam or an alluvial sandy loam. The former is of the greater extent and is characterized by a sloping topography, an important consideration in determining the most advantageous land use. As a result it has become essentially a timothy growing area. The crop serves to prevent erosion from the sloping fields and obviates the high costs of cultivating steep slopes for annual crops. The alluvial soils are associated with a more favourable topography. Consequently, utilization involves more cereal crops and clover. In addition the specialized business of vegetable seed growing is being developed on these soils by a number of farmers in the Houston district. As a result of changing conditions further development of that business in this district may be limited.

Services for the agricultural community are provided by the towns of Smithers and Telkwa. Located within the district are several co-operative associations, among them a seed cleaning and shipping plant at Telkwa.

Throughout the four districts extensive lumbering operations are being carried on. Many farmers therefore take the opportunity to augment farm income by part time employment in that industry. Some operate their own sawmills or sell ties cut from their own farms. Others prefer to work as employees in the local sawmills. Altogether the supplement to farm income is quite large.

NATURAL FEATURES OF THE AREA

The soils, climate and water supply of an area are the most significant natural features that determine land use and delimit the types of products that may be produced.

Soils

The soils of the area belong to the Northern Woodland Soils Region. Two zones from the Region are represented, namely, Northern Grey-Wooded and Grey-Black Transition. Within each zone the Soil Survey has grouped the soils that exhibit similar qualities into Associations.

For purposes of this report a summary of the description of each Association has been made from the Soil Survey Reports.[1] The Associations considered were divided into two main groups. The first group contained those eight Associations which the Soil Survey has classified as non-arable. The Associations in the second group are either all or partly arable. Thus the soils most likely to be of agricultural importance are segregated in the latter group. It is also on these that most settlement has taken place. The arable Associations are ten in number. Generally they consist of lacustrine[2] and alluvial[3] deposits and the soils developed on glacial till where the topography is suitable for cultivation.

Arability[4]

Approximately 832,462 acres or two-fifths of the land area covered by the soil survey between Prince George and Smithers has been classified as arable (Table 1). This is about nine-tenths of the area of soils suitable for settlement.

[1] See Appendix I. [2] The deposit of glacial lakes. [3] Deposited by running water.
[4] See Appendix I for table of total and arable acreages in the various soil Associations.

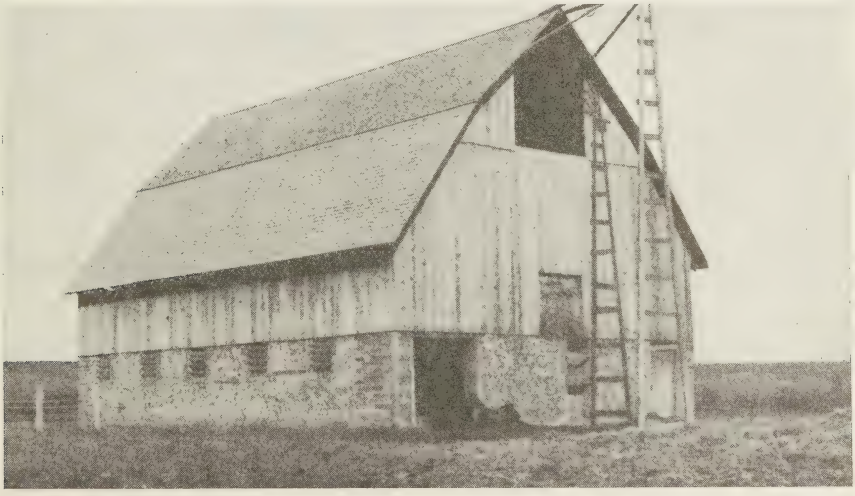
TABLE 1.—ARABILITY OF THE PRINCE GEORGE-SMITHERS AREA FROM SOIL SURVEY REPORTS

—	Soils suitable for Settlement		Soils not suitable for Settlement		Total	
	Acres	percent	Acres	percent	Acres	percent
Arable	832,462	91	.....	....	832,462	39
Non-arable	77,706	9	1,207,446	100	1,285,152	61
Total	910,168	100	1,207,446	100	2,117,614	100

The total area of farms in the study amounted to 83,231 acres of which approximately one-quarter (20,925 acres) was improved land. The operators of these farms estimated the total arable acreage in their farms to be two-thirds of the total area. The difference between the two-thirds and nine-tenths arability estimates is probably accounted for by the fact that while nearly all the farms were predominantly on the soils classified as suitable for settlement, nevertheless, in many cases the farm boundaries extended into the poor soil types.

The Census of 1941 found the total area in farms[1] to be 324,235 acres, with 21 per cent (68,115 acres) of improved land. Assuming the ratio of two-thirds arability, then, existing farms can be expanded to 216,000 improved acres. That is, it would be possible to increase the area of improved land in farms threefold.

It is evident, too, that there is a possibility of expanding the number of farms in the area as well as the area of existing farms. Twelve hundred farms[2] now occupy 216,000 arable acres. If 216,000 acres is subtracted from the 832,000 acres shown by the soil survey to be arable then the remainder, 616,000 acres, is land not in farms but in soil types suitable for settlement. This area, allotted



A good barn partly constructed of logs and mortar.

[1] British Columbia, Census of Agriculture. Eighth Census of Canada, 1941. Census Subdivisions 8A, 8E, 8F.
[2] *Ibid.*

in accordance with the present average amount of arable land per farm, 180 acres, as shown by the Census, would be sufficient to create 3,400 new farms which would give a total of 4,600 farms in the area.

Climate

The climate of the area is of the interior continental type which is characterised by a relatively low rainfall and extremes of seasonal temperatures. In the study area, however, the low rainfall is associated with a relatively high precipitation efficiency. For that reason complete crop failures because of drought are almost unknown, although variations in crop yields occur from year to year because of lack of moisture during the growing season. Average summer temperatures are similar to those of the northernmost settled areas in the Prairie Provinces.

Within the area, however, the physical features cause local climatic variations to occur. Particularly significant to agricultural development are the differences in length of the frost-free period. That period has been found to differ markedly between contiguous parcels of land, due chiefly to altitude differences and locations with respect to air drainage. Rainfall and average temperatures during the growing seasons also vary but tend to do so over more extensive areas. Data available from weather station records show that the Prince George district has the highest seasonal precipitation and also higher summer temperatures than other parts of the area.

Precipitation.—The precipitation for the growing season, May to August inclusive has the most significance with respect to crop production. For this period the long-time average was 7·5 inches at Prince George and 5·0 to 5·6 inches at other weather stations located in the western portions of the area (Table 2).

TABLE 2.—PRECIPITATION[1] AND PRECIPITATION EFFICIENCY[2] RECORDED AT VARIOUS STATIONS, PRINCE GEORGE-SMITHERS AREA

Weather Station	Number of Years	Annual Precipitation	Precipitation May 1–Aug. 31	Precipitation Efficiency
		inches	inches	percent
Prince George	31	21·0	7·5	59
Fort St. James	51	15·6	5·6	..
Wistaria	18	17·6	5·0	57
Telkwa	22	15·4	5·6	45
Maclure Lake	30	15 2	5·0	..
Vanderhoof	.....	.....	.....	39

[1] Climate of British Columbia, 1944, Province of British Columbia, Department of Agriculture.
[2] Unpublished data, Agronomy Department, University of British Columbia.

Precipitation efficiency, however, is not necessarily associated with high rainfall. The efficiencies calculated for Prince George and Wistaria were similar, being 59 and 57 per cent, respectively, in spite of the lower rainfall at the latter point. Telkwa and Vanderhoof were definitely drier areas, with precipitation efficiencies of 45 and 39 per cent, respectively.

Summer Temperatures.—The average temperatures for the summer months of June, July and August have been recorded as 58° F. at Prince George and 55° F. at the other weather stations within the area (Table 3). The low summer temperatures partly accounted for the relatively high moisture efficiency of the area as compared with moisture efficiencies calculated for other points in the province farther south but with similar rainfall.

TABLE 3.—SUMMER TEMPERATURES[1] AT VARIOUS POINTS, PRINCE GEORGE-SMITHERS AREA

Weather Station	Average Temperature June, July and August
	degrees F.
Prince George	58
Fort St. James	55
Wistaria	55
Telkwa	55

[1] Province of British Columbia, Department of Agriculture, *op. cit.*

A hayshed is standard equipment on most farms.

Frost-Free Periods.—In calculating frost-free periods 29° F. was accepted as a killing frost. The period varied from 60 days to 106 days (Table 4). It must be again emphasized, however, that local conditions will cause the period to vary considerably within very short distances. Generally speaking the period is short enough to limit crop production to the cereals, wheat, oats, barley and rye, the grasses and certain clovers and the more hardy fruits and vegetables.

TABLE 4.—AVERAGE LENGTH OF FROST-FREE PERIOD, PRINCE GEORGE-SMITHERS AREA

Weather Station	Frost-Free Period
	days
Prince George	106
Vanderhoof	60
Wistaria	78
Telkwa	90

Farm Water Supply

Certain farm enterprises, particularly those that involve livestock, are dependent upon a readily available supply of farm water. Lack of it places very definite limits on the development of these enterprises. Moreover, water may be available but only at a cost greater than an individual farmer can afford. This is often the case where deep wells requiring a large capital investment are the only dependable source of farm water supply. Some farms included in the study were faced with this problem. These seemed for the most part to be located on the Pineview Soil Association at Prince George and on the Prairiedale Association at Vanderhoof. Farther west, in the Smithers-Telkwa and François Lake districts, it seemed that a farm water supply was more readily obtained at small cost. Many farmers in the latter districts were able to utilize springs and creeks located on their own property.

TABLE 5.—SOURCE OF FARM WATER SUPPLY, PRINCE GEORGE-SMITHERS AREA, 1943-45

Source	Prince George	Vanderhoof	Smithers	François Lake
	percent of farms	percent of farms	percent of farms	percent of farms
Well only	24	35	29	25
Well supplemented by creek, river or lake	46	28	29	50
Creek, river or lake	19	35	21	20
Dam or dugout	6	0	1	0
Spring	0	0	16	5
No source on the farm	5	2	4	0

In the whole area about one-quarter to one-third of the farms depended upon a well only for water supply (Table 5). An additional 28 to 50 per cent supplemented a well with some form of surface water, that is, a creek, river or lake. In the Smithers district 16 per cent obtained their water from springs. In the whole area from 19 to 35 per cent obtained water from creek, river or lake only. Very few had no source of water supply on the farm and for the whole area these amounted to less than five per cent of the total farms in the study.

In the Vanderhoof district 23 per cent of the wells were 201-300 feet in depth and an additional nine per cent were 150-200 feet. A few (eight per cent) in the Prince George district were 61-150 feet deep, the majority of the remainder being less than 30 feet. In the Smithers and François Lake districts none was more than 60 feet deep. The water problem, therefore, was associated with certain local conditions and in those localities it had to be reckoned with as an important consumer of the capital required to set up a farm organization.

With respect to adequacy of supply about one-quarter of the farmers stated that their water source would provide for less than 25 head of cattle; about two-thirds thought that their source would be adequate for more than 50 head. On the whole, therefore, water supply for livestock seemed quite readily available and except in local instances did not appear to be a limiting factor to the development of agriculture in the area.

AGRICULTURAL DEVELOPMENT

It is difficult to trace the development of agriculture in the area previous to 1931 because changes were made in the Census subdivisions in British Columbia between 1921 and that year. Data from the 1931 and 1941 Census, however, indicated that agriculture in the area did not expand markedly during the decade.

There were 1,110[1] occupied farms in 1931 and these increased to 1,205[1] in 1941, a proportional increase of approximately nine per cent (Table 6). The rural population was 7,149 in 1931 and 7,694 in 1941. In 1931 they were divided approximately equally between those on farms and those not on farms. By 1941 the rural population on farms showed a moderate increase, but there was no change in the number of rural population not on farms.

TABLE 6.—RURAL POPULATION AND OCCUPIED FARMS, PRINCE GEORGE-SMITHERS AREA, CENSUS 1931 AND 1941

——	1931			1941		
	Total Rural Population	Number on farms	Number not on farms	Total Rural Population	Number on farms	Number not on farms
Rural Population.....	7,149	3,470	3,679	7,694	4,034	3,660
Occupied Farms.....	1,110	X	X	1,205	X	X

The improved land in the area averaged 42·6 and 56·5 acres per farm in 1931 and 1941, respectively (Table 7). The increase represented an expansion of 13·9 acres per farm during the decade, or 1·4 acres per farm per year. The fact that a certain number of new farms came into existence during the period meant that the rate of development was slightly higher than that but it was probably less than two acres per farm per year.

TABLE 7.—PROPORTIONATE USE OF IMPROVED LAND, PRINCE GEORGE-SMITHERS AREA, CENSUS[1] 1931 AND 1941

Year	Acres	Acres per farm	Wheat	Oats	Hay	Pasture	Other	Total
			per cent	per cent	per cent	per cent	per cent	per cent
1931.....	47,289	42·6	7	18	39	12	24	100
1941.....	68,115	56·5	5	10	57	9	19	100

Growing of hay and pasture was the important land use in both Census years. Moreover, during the ten-year period grass acreage increased in proportion to the acreage used for other crops. The acreage devoted to hay and pasture increased by an amount approximately equal to the entire area brought under cultivation during the period. As a result grass occupied 51 per cent of the land in 1931 and 66 per cent in 1941. This increase was accompanied by a decrease in the proportionate acreage of cereal crops, especially oats. Oats occupied 18 per cent of the improved land in 1931, and ten per cent in 1941. The significance of the shift to more grass was that it allowed farmers to increase their livestock enterprises, particularly cattle (Table 8). In the ten-year period the number of cattle per farm increased about 50 per cent, horses and sheep per farm increased almost 50 per cent. The number of hogs per farm nearly doubled. In aggregate, however, the numbers of livestock were small. The output of the hog enterprise amounted to little more than that required for home consumption on the average farm. Cattle numbers amounted to 11·4 head per farm. They would constitute the main source of livestock income but an average herd of 12 head per farm would be only four each of mature cows, young calves and

[1] Agriculture, Census of Canada, 1931, Vol. 8; and British Columbia, Census of Agriculture, Eighth Census of Canada, 1941.

steers or heifers over one year. Such a herd could not produce a large surplus above that needed for farm home consumption. This is borne out by the Census which revealed that in this area the value of all milk produced and cattle sold or used on the farm amounted to $272 per farm in 1940.

TABLE 8.—LIVESTOCK PER FARM, PRINCE GEORGE-SMITHERS AREA, CENSUS 1931 AND 1941

—	1931	1941
Horses	2·3	3·1
Cattle	7·3	11·4
Sheep	3·7	4·7
Swine	1·5	2·8
Poultry	51·1	58·3

Native material used for fencing.

LAND SETTLEMENT

LAND POLICY

Records of the British Columbia Department of Lands reveal that land had been alienated as homesteads at Prince George as early as 1897. After 1906, there was a steady flow of applications from potential homesteaders.

Prior to 1915 all land was administered under the Provincial Land Act. Under the Act title was granted to an individual for a 160-acre parcel of land when he had lived on it for ten months in the year for two years, had made improvements to the extent of $2.50 per acre and had paid $1 per acre. After 1913 the $1 per acre was revoked, the residence and improvement requirements were raised, respectively, to five years and $5 per acre including five acres of improved land. Those requirements continue to the present time except the improvement requirement which has been raised to $10 per acre. Only one parcel may be alienated at one time but there is no limit to the number of parcels that one person may acquire successively. The onus of declaring the land suitable for agriculture formerly rested with the individual seeking the land. In recent years the Act has been changed and responsibility now rests with the Provincial Department of Lands.

In 1915 another land agency came into being. Originally named the Agricultural Credit Commission, it became the Land Settlement Board in 1917. The function of the Board was to foster agricultural development by making mortgage loans to farmers. In addition the Board was granted land from time to time for direct sale to farmers. The Board also has had some land for disposition which it has acquired through mortgage foreclosures. The operation of these two distinct methods of acquiring land, then, accounts for the fact that an equal number of farmers in the study acquired raw land by purchasing and by homesteading Crown Land.

LAND ACQUISITION

Slightly less than one-half (44 per cent) of the farmers included in this study had started with raw land (Table 9). An equal number (17 per cent in each case) had purchased raw land from the Crown or acquired it as a homestead. Ten per cent had purchased it from private persons. On the other hand 56 per cent had acquired their first parcel as partly improved land. Some of these parcels had been inherited, a few had been rented but the majority had been purchased from private persons. Raw and improved land had been purchased for an average of $837 and $2,262 respectively per 160-acre parcel, with an average down payment of $336 and $1,025, respectively. Payment terms had not tended to conform to any standards. The periods for repayment had varied greatly as also had the interest charges.

TABLE 9.—METHOD OF ACQUISITION OF FIRST PARCEL OF LAND IN FARM, PRINCE GEORGE-SMITHERS AREA, 1943-45

—	Raw land	Improved land	All land
	per cent	per cent	per cent
Homesteaded	17	0	17
Purchased from Crown	17	9	26
Purchased privately	10	30	40
Purchased from company	0	3	3
Inherited	0	5	5
Rented	0	9	9
Total	44	56	100

An analysis of the method by which improved parcels had been acquired gave some clue to the success of original settlement. It may be stated with a fair degree of certainty that improved land purchased from the Crown was reverted land on which the former operator had failed. Nine per cent of the present number of farmers had acquired this type of land. Land purchased or rented from private persons might represent a normal turnover of land, that is, the operators had ceased farming operations for good reasons, such as having reached retirement age. However, 39 per cent of the first parcels in farms were acquired in this manner, a proportion that seemed high for normal turnover and therefore suggested that some of those parcels were purchased or rented from original settlers who had decided that prospects for farming were not favourable. Thus the nine per cent estimate of failure could be augmented by part of the 39 per cent, that is by those who had to give up but were fortunate in having an opportunity to sell or rent their property instead of allowing it to revert to the Crown. Furthermore a large majority of the farmers had acquired a second parcel, in most cases partly improved land. They did so, in nearly all instances, before their first parcel was fully improved. This fact indicated that farmers had considered it cheaper to purchase or rent land already improved than to

clear and break raw land. In other words, in the eyes of many farmers the probable net income was not sufficient to warrant the cost of preparing forested land for cropping if they had an opportunity to purchase improved land. There was further evidence, too, that consolidation of farms had taken place for a fairly large number of abandoned buildings were noted throughout the area. The land was not idle but had been added to other farms.

Land settlement which has to work itself out in this manner must involve considerable hardships and loss to those who eventually are forced out. Worse still, if better opportunities for employment are not readily available the situation may not begin to correct itself for an extended period of time. At best when adjustments take place many will have spent several years improving forested land and will have received little for their labour. It would seem that the possibility of such occurences should be recognised when land policy is formed.

Abandoned buildings

Land Selected

Land in farms was for the most part predominantly of the soil types classified as arable by the soil scientists. Only ten per cent of the operators were on farms where the inferior coarse and gravelly-textured soils predominated. Approximately 63 per cent of the farms (89 per cent in the Prince George-Vanderhoof districts, 24 per cent in the Smithers-Francois Lake districts) were on either a silt loam or clay, generally conceded to be the most productive soils of the area.

Tenure

Eighty-two per cent of the farms studied were fully owner operated, 12 per cent were partly owned and partly rented and six per cent were fully rented (Table 10). A high incidence of ownership is often associated with the earlier stages of development of an area or with the poorer grades of land. Both reasons probably apply in this area; the former because one-half of the farms were still occupied by their first owners; the latter because few if any of the parcels turned over had attracted buyers who purchased because they thought the land was a good investment.

TABLE 10.—FARM TENURE AND PERIOD OF OCCUPANCY PRINCE GEORGE-SMITHERS AREA, 1943–45

	Per cent	Years on Farm
Owners	82	15
Part-Owners	12	12
Tenants	6	3

The average farm had been occupied for 14 years by its present operator. Owners, had been on their farms for 15 years, tenants for three years. In only a few cases was there evidence that the operator moved to ownership by the "tenure ladder". The reason that the tenure ladder did not operate extensively was that it had been comparatively easy for farmers to homestead or to purchase land with a small down payment and thus avoid the intermediate steps to full ownership. Furthermore, it was practical for farmers to operate with a small amount of working capital. Labour applied over a period of years in clearing and breaking the land was the chief investment required.

ROADS AND MARKETS

Roads

The Skeena highway traverses the area and was fully open for civilian traffic in 1945. Besides connecting the towns the highway provides an excellent market road for the farms located along its route. Many other roads, too, were gravelled and well kept because of the heavy truck traffic in connection with the lumbering industry. As a result a majority (52 per cent) of the farms were located on a gravelled road. Only 11 per cent were located on unimproved trails. In this respect, therefore, the settlers in the area were probably more fortunate than in many other areas where pioneer development has taken place for the most part with very poor roads.

Markets

The proportion of urban and non-farm rural population in the area is quite high and as a consequence there are local markets for a considerable amount of farm produce. Furthermore, mining and lumbering may expand and provide additional though not necessarily permanent markets for farm products. Once the local demand is satisfied, however, any surplus must seek outside markets. In competing on those markets the area is in some respects at a disadvantage. In the first place it likely suffers in comparison with the Prairie areas in the production cost of grain and animal products. Secondly, the area is comparatively isolated from its outside market.

The difficulty in the latter instance is not physical access to markets for the area is served by a transcontinental line of the Canadian National Railway. It is more the high freight charges which ensue as a result of the distance to market. With regard to grain, which is relatively costly to transport, the situation is as follows. As long as the area has a deficit of grain then producers with a surplus for sale can ask Edmonton price plus freight to the area, but immediately a surplus exists the grain growers have to take Edmonton price less freight. There were some growers in the area, therefore, who felt that they had suffered by reason of the government wartime freight subsidy on cereal grains which of course reduced local grain prices to those prevailing at Edmonton.

It would seem, then, that for export from the area marketing conditions favour the more concentrated animal products. Butter manufacture is carried on in two creameries, one at Prince George, the other at Telkwa. With respect

to live beef cattle shipments, a difficulty is the long period that elapses between the time that the stock leave the local shipping point and their arrival at a city market. The resulting shrinkage is often a serious reduction in the returns. Nevertheless, live cattle are one of the most suitable products for export and considerable numbers are shipped out in carload lots, especially in the fall of the year. At the same time a large amount of meat is imported into the area because of lack of local packing facilities.

The products most successfully shipped from the area to compete on outside markets are the various grass seeds. Timothy seed is produced in the western portion of the area and alsike seed does well in the Prince George district. There also seems to be conditions favourable for the growing of vegetable seeds and some of the less common fescues. The market for these, though, is by no means assured.

FARM OPERATORS

More than one-half of the farm operators had resided in British Columbia immediately prior to the time that they took up their present farms. About one-quarter came from the Prairie Provinces, nine per cent from Europe and a few directly from the British Isles or the United States. Their previous occupations had varied somewhat but 59 per cent of them had either farmed or had left the home farm when they acquired their present holdings. Twenty-five per cent had been labourers doing other than farm labour; seven per cent had been tradesmen; the remaining nine per cent had pursued various occupations.

They expressed a variety of reasons for having come to settle in the area. Thirty-one per cent said that they had come because they had read about the area or that it had been "recommended" to them. Of these some who came from the Prairies had assumed that more favourable moisture conditions would ensure success and others from established farming areas had liked the prospect of free or cheap land. Many now thought that they had been misled with regard to the agricultural possibilities of the area. Many too had expected to find a more moderate coastal climate. Eighteen per cent were there because they had been raised in the area. Only 12 per cent had come in for mining, logging or railway and telegraph building and had stayed to farm. Thirteen per cent came because they had relatives or friends in the area. The outstanding characteristic of the reasons was that they were not predicated on a knowledge of the agricultural potentialities of the area, particularly regarding markets and costs of land development.

Fifty per cent of the operators were of British descent; the remainder were of various European origins including Scandinavian, French, Dutch, and German. Twenty-eight per cent were single persons. The average age of all settlers was 50 years. The distribution of their ages showed that retirements from active farming over the next few years may be quite high since 24 per cent were 61 years of age or over and 61 per cent were over 45 years of age (Table 11).

TABLE 11.—AGE OF FARMERS, PRINCE GEORGE-SMITHERS AREA, 1943–45

Years	per cent
30 or under	8
31–45	31
46–60	37
61 and over	24

When asked about their attitude regarding the future of the area, 26 per cent of the settlers were pessimistic or indifferent. The reason given mostly concerned the cost of marketing their products and the heavy capital investment needed for clearing and breaking the land. The majority, however, were optimistic about the future of farming in the area although many who were, tempered their optimism with the qualification that financial assistance was needed to help in land clearing and breaking. Others mentioned that something should be done to make markets more accessible if agriculture were to prosper. In short, the general feeling was that probable farm surplus would be insufficient to pay for land developemnt and that some form of subsidy was necessary.

CLEARING AND BREAKING

In bringing the land under cultivation the job of removing the forest growth had been accomplished mainly by hand labour without the aid of mechanical equipment. Most of the clearing had been done by the operators themselves though many of them had had various amounts cleared under contract. In many instances stumps had to be blasted out after the forest had been removed and that added considerably to the cost of bringing the land under cultivation. Most farmers had broken the cleared land with their own equipment, usually with horsepower. In later years, however, more tractors had been brought into the area and these were being used more frequently on a custom basis by farmers for breaking.

No attempt was made in this study to estimate the cost of clearing in terms of labour requirements. It is obvious that the time required would vary considerably with the type of cover and the number of large stumps that required removal. The fact that it was costly in terms of labour is illustrated by the slow rate at which the land had been brought under cultivation. On the average farmers had cleared and broken 2·0 acres per farm annually in the Prince George district, 3·1 in the Vanderhoof district and 3·7 in the Smithers-Francois Lake districts.

Twenty-nine farms had had clearing done on a hired or contract basis. For this work they had paid as high as $100 per acre on land with a heavy bush cover and as low as $5 per acre where the cover was light. The average cost of

Logged over land being cleared for breaking.

custom clearing was $32 per acre for all types of cover (Table 12). Heavy, medium and light clearing had cost $52, $30 and $13 per acre, respectively. The custom charges for breaking had varied from $5 to $10 per acre, averaging $7. The charge did not seem to vary with the type of cover that had been on the land. The total average cost on 29 farms for custom clearing and breaking, then, amounted to $39 per acre. A few farmers had arranged to have custom clearing and breaking done under a single contract. The average charge in these contracts had been $41 per acre.

Cleared and piled with a power brush cutter and piles.

TABLE 12.—AVERAGE CUSTOM CHARGES PER ACRE FOR CLEARING AND BREAKING FORESTED LAND, PRINCE GEORGE-SMITHERS AREA, 1943–45

	Type of cover			
	Heavy	Medium	Light	Average All covers
	$	$	$	$
Clearing	52	30	13	32
Breaking	7	7	7	7
Total	59	37	20	39

It seemed then, that the cost of bringing land under cultivation had been high in relation to the probable net income which the land so improved might produce. With regard to agricultural development this had had a two-fold effect. In the first place it had discouraged land speculators and allowed the area to be exploited by bona-fide settlers only. On the other hand it also had kept private loan agencies away from the area and this lack of capital had probably been a factor contributing to the slow agricultural development.

FARM TYPES

A fairly large number of farm types had developed to take advantage of the market and natural conditions peculiar to the area. These types could be separated broadly into commercial and non-commercial types depending upon

the contribution that the farm made toward the operator's living. The non-commercial farm operators either earned more off the farm than they produced on the farm (part-time type) or they operated in such a manner that nearly all living came directly from the farm (subsistence type). The operators of commercial farms depended mainly on sales of farm products for income. Seven main types were recognised, crop, livestock, mixed crop-livestock, whole milk, poultry, vegetable seed and forage crop seed. The crop farms grew grain and hay which they marketed directly. Most farmers, however, had found that crops could be most advantageously marketed through livestock. Therefore, about one-half of the farms were of the livestock and mixed grain-livestock types. The remainder were farms that specialized in one enterprise. There were also a few farms that were classified as off type. For the most part they were of the mixed crop-livestock type except that the operators had undertaken a semi-farm enterprise, for example custom work, to such an extent that it had become the major source of income.

LAND UTILIZATION

The fact that grass occupied one third to three fourths of the improved land was the outstanding characteristic of the land use pattern. The Vanderhoof district, however, differed quite markedly from the others. That district produced most of the surplus grain of the area. This was reflected in land use since 33 per cent of the land was used for oats as compared with 19 and 11 per cent, respectively, in the Prince George and Smithers districts (Table 13). The reverse was true with regard to tame hay and pasture. Only 28 per cent of the land at Vanderhoof was in grass while 60 and 68 per cent of the land at Prince George and Smithers, respectively, was in grass. Summerfallowing was not generally practised except at Vanderhoof where 23 per cent of the land lay in fallow.

TABLE 13.—LAND UTILIZATION IN THE PRINCE GEORGE-SMITHERS AREA, 1943-45

Land Use	Prince George	Vanderhoof	Smithers-Francois Lake
		Acres	
Improved acreage per farm	45	84	104
		Percentage	
Proportion of improved acres in—			
Wheat	6	5	4
Oats	19	33	11
Barley	2	4	3
Alsike or clover for seed	6	4	2
Grass for seed	1	1	7
Tame hay and pasture	60	28	68
Other	1	1	3
Summerfallow	2	23	1
Breaking	3	1	1
	100	100	100

In growing wheat the farmers of the area were confronted with the problem of a short growing season. That probably accounted for the fact that the wheat crop only averaged two to five acres per farm. Barley acreage was even less for though it fits into a short growing season barley does not yield particularly well on these soil types.

The acreage of grass and alsike for seed production amounted to only a few acres per farm. Where timothy is the seed crop the acreage can vary considerably from year to year because when the season is dry and the prospects for a

seed yield are obviously poor then farmers tend to cut more of the acreage for hay. With alsike or other clovers the situation is different. Poor yields, when they do occur, are usually not discernible so early in the season for they result mostly from a poor seed set or wet harvest weather rather than drought. Therefore shifts between hay and seed production do not take place with the same facility as with timothy.

Farmers as a whole evinced interest in seed production. They were concerned especially with the solution of production problems for they realized that in forage seed they had a product that could be marketed to as great advantage as any other which they could produce. It is possible, therefore, that the acreage devoted to seed production will increase.

ALTERNATIVE EMPLOYMENT

Employment opportunities outside the farm can be quite valuable to settlers as income supplements during the early years of settlement when the farm income is necessarily small. There is always the possibility, however, that settlers will continue to depend on a certain amount of outside income. Such a situation is not particularly desirable for the best use of labour and capital in agriculture is not usually attained on a part-time basis. To the extent that it persists, then, part-time farming tends to contribute to the inefficient use of agricultural resources and capital. Furthermore, if the employment offered is recurrent, farm enterprises which require skill and time to build up are in danger of being disrupted. For when employment is available the settler is tempted to neglect the farm for the more immediate return of wages. Part-time industrial employment, therefore, may be a doubtful blessing to agriculture in a area if it only serves to foster mediocre farms.

Non-farm income in the Prince George-Smithers area was quite large at the time of this survey by reason of the good wages and high employment in the local lumbering industry. It averaged $341 per farm. It was noteworthy, too, that 18 per cent of the farms sampled were classified as part-time and that their operators averaged $980 in non-farm income as compared with $187 by the commercial farm operators. Furthermore, the part-time farms appeared to be on a permanent basis for their operators had occupied them for 11 years as compared with 14 years for the commercial farm operators. The part-time farms, however, had only 59 acres under cultivation, the commercial farms had 90.

Newly broken land.

FARMER'S NET WORTH

Real estate was the largest single item of the settler's capital. At the same time it was a difficult value to obtain accurately because there was not a steady enough turnover of land in the area to establish a price. Nevertheless, the values obtained were what the farmers thought that they themselves would be willing to pay for the farm. The equipment, livestock and supplies on hand were valued by the farmer at current market prices.

In each of the districts, real estate averaged $3000 to $4000 per farm which was about one-half the total assets (Table 14). Farm capital per farm was smallest at Prince George and largest at Francois Lake. The latter district had experienced more abandonment of farms. In the consolidation which followed the remaining farmers had tended to establish themselves with more capital in land and in cattle to make use of the additional grazing area. In Smithers, too, the farms tended to be larger and therefore real estate values per farm were higher.

TABLE 14.—ASSETS AND LIABILITIES PER FARM BY DISTRICT, PRINCE GEORGE-SMITHERS AREA, 1943-45

——	Prince George	Vanderhoof	Smithers	Francois Lake
	$	$	$	$
Real Estate	3,361	3,431	4,204	3,851
Livestock	951	1,750	1,354	2,142
Machinery	1,062	1,411	1,122	1,003
Feeds and Supplies	108	191	222	456
Other Assets	933	946	1,523	1,986
Total Assets	6,415	7,729	8,425	9,438
Liabilities	259	730	623	366
Net Worth	6,156	6,999	7,802	9,072

Liabilities per farm were low, averaging $259, $730, $623 and $366 for the Prince George, Vanderhoof, Smithers and Francois Lake districts, respectively. Proportionately, they amounted to less than ten per cent of total assets. While this indicated that the farms as a group were solvent it was not necessarily an indication that agriculture in the area was in a favourable position to progress. For these small debts were largely agreements of sale between the farmers and private sellers of land. By and large long term lenders had not considered the probable returns from agriculture high enough to warrant extensive lending to farm operators for developing their farms.

Among the various farm types the whole-milk farms were the largest. The value of their assets averaged $15,008 per farm (Table15). Next were the forage-seed and off-type farms which had assets valued at $11,951 and $10,272, respectively. These were three farm types that required considerable organization and it was natural to expect that their business would be larger than average.

TABLE 15.—ASSETS AND LIABILITIES PER FARM BY TYPE OF FARM, PRINCE GEORGE-SMITHERS AREA, 1943-45

Farm Type	No. of Farms	Assets	Liabilities	Net Worth
		$	$	$
Part Time	48	6,339	460	5,879
Subsistence	26	4,422	265	4,157
Crop	16	7,136	399	6,737
Livestock	72	7,966	553	7,413
Mixed	65	8,248	559	7,689
Poultry	15	7,706	313	7,393
Vegetable Seed	3	9,060	405	8,655
Forage Seed	4	11,951	66	11,885
Whole Milk	8	15,008	2,017	12,991
Off Type	6	10,272	516	9,756

Gain in Net Worth

The settlers had started with an average net worth of $2,312. This value for the most part represented cash although many had brought in various kinds of livestock and machinery. On the average they had gained $340 per year. Those who had started with more than the average had not made greater gains (Table 16). In each group the gain had been $300 to $400 per farm. Those who started with larger amounts of capital had merely tended to maintain the added capital with which they started. The reason probably was that land clearing had been accomplished for the most part by hand and buildings had been constructed from logs hewn by the operator. Therefore it was not possible to put much capital to work. Lately, though, land clearing machinery has been developed which has many advantages over the hand method. The most important characteristic of the change is that capital takes the place of labour. The implication, then, is that access to a larger amount of capital will be an advantage to future settlers even though it does not appear to have been in the past.

TABLE 16.—CHANGE IN NET WORTH PER FARM ACCORDING TO NET WORTH AT START, PRINCE GEORGE-SMITHERS AREA, 1943–45

Net worth at start	No. of Farms	No. of Years on farm	Annual gain in net worth	Net worth
$			$	$
0–999	107	16	311	5,272
1000–1999	61	13	409	6,746
2000–2999	40	10	310	7,368
3000 and over	54	14	350	11,523
No information	1	X	X	X

Gain in Net Worth and Type of Farm

A tabulation of the gain in net worth in the year of study indicated that the part-time farms had advanced more than the commercial types. For they had gained $571 per farm during the year, as compared with an average gain of $36 on all the commercial farm types (Table 17). Among the commercial farm types the forage-seed and whole-milk farms had made the greatest gains, averaging $441 and $878 per farm, respectively.

TABLE 17.—CHANGE IN NET WORTH PER FARM BY TYPE OF FARM, PRINCE GEORGE-SMITHERS AREA, 1943–45

Farm Type	Number of Farms	Annual gain in net worth	Gain in net worth during the year of study
		$	$
Part Time	48	397	571
Subsistence	26	144	−430
Crop	16	257	80
Livestock	72	326	−64
Mixed	65	400	92
Poultry	15	378	−201
Vegetable Seed	3	637	2
Forage Seed	4	1,095	441
Whole Milk	8	684	878
Off Type	6	517	−282

Over the whole period of occupancy part-time farms had averaged $397 gain in net worth per year; commercial farms had averaged $392. Part-time and commercial farms therefore seemed to have progressed somewhat similarly.

However, some of the special types among the commercial farms had made significantly better gains. Vegetable seed, forage seed and whole milk producers had gained $637, $1,095 and $684, respectively. The crop farms had made the least gains, averaging $257 per farm per year.

FUTURE PLANS OF SETTLERS

Only 20 of the farmers interviewed had definite ideas regarding their future plans. Of these 11 per cent planned to discontinue farm operations. That was understandable since 24 per cent of the farm operators were over 60 years of age (Table 11). Forty-five per cent said that they considered the extension of mixed farming operations as the soundest development of their farm businesses. Ten per cent thought that they would include the growing of grass or clover for seed or extend their present acreage of those crops. The remainder planned to extend some livestock enterprise.

The outstanding characteristic of the reasons given was that most of the farmers indicated that they wanted to continue or expand one or all of the several livestock enterprises. Comparatively few were interested in making the specialized crops that are adapted to the area the major enterprises.

Nearly all farmers mentioned, too, that little could be done toward implementing any plans they had made until they had more land under cultivation. They were keenly interested, therefore, in any scheme that would make the heavy land clearing equipment available to them.

LIVING CONDITIONS ASSOCIATED WITH FARMING IN THE AREA

There are characteristics of farm life which enhance real income but cannot be measured in monetary terms. Among these are a great freedom of individual action and a certain basic security of employment and income which a farm usually provides. Considerable emphasis is sometimes placed on the value of those satisfactions credited to farm life. This is particularly true when farming is thought of as a way of life rather than a purely business enterprise. An enumeration of the amounts that farmers in an area spent for family living plus

A log house under construction.

the value of perquisites obtained from the farm, then, would not be a complete measure of their level of living in terms of satisfactions. There are, however, other non-money characteristics that tend to subtract from real farm income. Many of these are associated with pioneer life. They include the isolation from other people and the relative inaccessibility of certain social and service facilities that are ordinarily considered to be necessities of life. It is probably true, too, that the greater intermingling of rural and urban dwellers will tend to magnify the undersirable features of pioneer life in the minds of some settlers. For practical purposes, then, it is probably quite safe to consider the amenities of pioneer farm life as offset by the inconveniences. Then the farm level of living can be expressed in objective terms.

A typical farm yard of an established farm with log buildings.

The expenditure on cash living by farmers in the Prince George-Smithers area was equivalent to or higher than that spent by farmers in other pioneer areas. The same was true with respect to the value of farm perquisites. It seemed too, that even though a fairly large proportion of the farm buildings was only fair or poor and the average value of farm dwellings was quite low, buildings were, nevertheless, as good as those that have been found in other pioneer areas. Medical and hospital facilities were provided but in an area as sparsely settled as this it was inevitable that they were not conveniently located to all of the settlers. Roads were fair to good and a fairly high proportion of the farms was located on a gravelled road. The area as a whole was at least as well equipped with roads as many other pioneer areas.

HOUSING AND FARMSTEADS

The average value placed on their dwellings by the farm operators in the Prince George-Smithers area amounted to $793 (Table 18). This was high when compared with the average valuation of $554 for farm houses in the Bonnyville pioneer area of Alberta,[1] 1943 and $340 in eight representative pioneer areas of Saskatchewan,[2] 1941-42.

[1] Kristjanson, B. H. and C. C. Spence, "Land Settlement in Northeastern Alberta". Economics Division, Marketing Service, Dominion Department of Agriculture. Unpublished.

[2] Stutt, R. A., and H. Van Vliet, "An Economic Study of Land Settlement in Representative Pioneer Areas of Northern Saskatchewan". Economics Division, Marketing Service, Dominion Department of Agriculture. Technical Bulletin 52, issued 1945.

TABLE 18.—RATING OF HOUSES AND FARMSTEADS AND AVERAGE VALUE OF HOUSES, PRINCE GEORGE-SMITHERS AREA, 1943-45

Rating	Farm-stead	House	Value of house
	percent	percent	$
Good	5	21	1,407
Fair	42	51	798
Poor	53	28	342
All Farms	X	X	793

The higher values for farm dwellings obtained in this study as compared with those obtained in the Alberta and Saskatchewan pioneer studies were probably largely the result of the increase in the prices of building materials between 1941 and 1945 rather than an indication of better farm houses; for in rating the farm dwellings the enumerators classified 79 per cent of them as fair and poor, the values of which were $798 and $342, respectively. In view of the fact that a higher percentage of the houses rated poor than good then the value of the majority of the houses must have been below the average. Furthermore, 53 per cent of the farm dwellings in the area were constructed entirely from logs, a type of construction that may be very satisfactory but usually indicates that a farm is not beyond the initial stages of development.

The rating of the whole farmstead also indicated that a large proportion of the farms had inadequate buildings. Only five per cent of the farmsteads were rated good and more than one-half were classified as poor. The basis for this rating was general condition, state of repair and evidence of capital investment in buildings.

No attempt was made to enumerate household equipment except that farmers were asked to place a total valuation on it. The average of these valuations amounted to $406 per farm. The values seemed higher in the western portion of the area, amounting to $491 per farm at Smithers-Telkwa-Francois Lake as compared with $351 per farm at Prince George-Vanderhoof.

An established farm with part frame part log house.

LIVING EXPENDITURES

The average cash expenditure for living amounted to $699 per farm in the area. It was higher in the western portion of the area, being $862 per farm in the Smithers-Francois Lake districts as compared with $592 per farm in the Prince George-Vanderhoof districts. Living expenditures were fairly closely related to income and the higher figure may have been due in a considerable degree to the fact that those records were enumerated a year later and farmers had earned more money in 1944-45 than in 1943-44 from all sources, both on and off the farm.

The living expenditures in this area tended to be higher than in some other pioneer areas. In an Alberta pioneer study[1] carried out for 1942-43, they averaged $615 per farm; in representative pioneer areas in Saskatchewan[2] 1941-42, they averaged $422 per farm. Some of the increase was undoubtedly due to price increases in the items purchased, but better economic conditions probably accounted mostly for the added expenditure; since the price index of farm products increased 31·7 points between 1941 and 1944 and net farm income in Canada increased more than 50 per cent between 1941 and 1943.

The most important item in living expenditures was the amount paid out for food, that is, groceries, fruit and meat purchased. This item amounted to approximately one-half of the average expenditure. As the size of the family increased the total living expenditure per adult month decreased from $34 for a bachelor's household (0-12 adult months) to $14 for a household with over 48 adult months, that is, a man, wife and more than four children (Table 19). This reduction occured in spite of the fact that total living expenditure was, as would be expected, directly related to size of family. The largest families spent $890 per family; the smallest spent $394. Moreover, the ratio of cash expenditure on food per person tended to be maintained at approximately one-half of the total expenditure on cash living per person regardless of the total amount spent.

TABLE 19.—CASH FAMILY LIVING EXPENDITURES PER FARM ACCORDING TO SIZE OF FAMILY, PRINCE GEORGE-SMITHERS AREA, 1943-45

Adult Months[3]	Number of Farms	Total cash living	Cash living per adult month	Cash for food per adult month
		$	$	$
0-12	46	394	34	18
13-24	40	625	23	11
25-36	68	749	23	11
37-48	55	832	19	9
49 and over	54	890	14	7
All Farms	263	699	19	11

It was apparent from Table 20 that living expenditures were directly related to the size of the farm business. Operators of farms on which total production (farm returns) was less than $1,000 spent $574 on cash living; those whose total production was $1,000-$1,999 spent $746. The former group would be illustrative of the difficult position of a newly established settler with a small amount

[1] Kristjanson and Spence, *op. cit.*
[2] Stutt, R. A. and H. Van Vliet, *op. cit.*
[3] Persons over 15 years of age in the home for one month are considered one adult month, those 15 years or under are ·5 adult months.

of capital. The farm business is small, income is low and so are living expenditures. But any increase in farm capital must come by way of a reduction in cash living expenditures. The upshot is that progress for a poorly equipped settler can only be slow. In fact, he might find it difficult without assistance ever to accumulate sufficient capital to provide a volume of business that will increase net income and permit an increase in the amount spent on cash living.

TABLE 20.—CASH FAMILY LIVING EXPENDITURES PER FARM ACCORDING TO FARM RETURNS[1], PRINCE GEORGE-SMITHERS AREA, 1943-45

	Farm returns					
	Up to $999	$1,000 to $1,999	$2,000 to $2,999	$3,000 to $3,999	$4,000 to $9,999	All Farms
	$	$	$	$	$	$
Food	275	329	426	365	698	326
Fuel and light	9	10	13	20	23	11
Auto, personal	16	33	35	48	21	24
Life insurance	4	6	16	11	4	6
Personal	82	106	87	140	161	95
Education	8	19	12	17	39	13
Church and charity	9	17	27	49	37	15
Health	53	71	76	59	116	63
Clothing	102	121	172	207	212	120
New furnishings	16	34	51	36	55	26
Total cash living	574	746	915	952	1,366	699
Cash food per adult month	8	9	8	9	13	9
Number of farms	141	86	17	7	12	263

Expenditure on living varied from $574 on farms with less than $1,000 gross production to $1366 on the largest farms (Table 20). Food expenditure amounted to $275 per farm on the small farms and increased to $698 on the largest ones. The expenditure for food per adult month, however, was not significantly greater and indicated that the larger farms also had larger households.

This was largely due to the fact that the larger farms employed labour and hired farm labour was boarded on the farm. It was for items of living other than food, then, that the operators of the larger farms and their families were able to spend more money. The significant fact, however, was that so large a number (141 out of 263) of the farms were in the class which allowed only sub-average expenditures on living. Moreover, an appraisal of the level of living over the whole area pointed to the conclusion that apart from food and clothing the level was quite low. Particularly noticeable were the very small amounts spent on life insurance and education. Life insurance premiums, which averaged from $4 to $16 per farm in the various farm returns groups, were small enough to show that most farm families were entirely unprotected. The expenditure on education provided the homes with a few books and newspapers. It amounted to $8 per farm on the farms producing less than $1000 gross product to $39 on those producing $4000 or over. Very little then could have been used to make high school training available to the young people. Personal expenditures too were fairly low. They amounted on the average to $95 per farm over the whole area.

Auto expenses represented one-half of the operating costs of the family car, the other half being charged to farm expenses. In addition, many had trucks which to a certain extent took the place of a car. Nevertheless, 43 per cent of the families had neither a car nor a truck for transportation.

[1] Farm returns is the gross production of the farm for the year. It is total sales plus or minus inventory changes in grain, hay and livestock.

Farmers often derive a good deal of their living directly from the farm. The additions to living so obtained include mainly farm-produced food, fuel and the free use of the farm house. These perquisites in the Prince George-Smithers area were quite important as contributions to family living. Table 21 indicates that food and fuel produced and consumed on the farm and valued at current farm prices amounted to $342 per farm. An arbitrary rental value of the farm house calculated at 15 per cent of its value amounted to $119 per farm. The total value of non-cash benefits was, therefore, $461 per farm.

TABLE 21.—FARM PERQUISITES PER FARM, PRINCE GEORGE-SMITHERS AREA, 1943-45

Item	Unit	Amount	Value
			$
Milk	gals.	270	32
Cream	qts.	79	24
Butter	lb.	95	28
Eggs	doz.	160	40
Wild fruit	qts.	56	17
Tame fruit	qts.	14	4
Potatoes	bu.	20	22
Garden			49
Meat	lb.	391	59
Total food			275
Fuel	cords	10	67
House rental value			119
Total			461

The value of food consumed on farms in the area, then, amounted to $601 per farm ($326 purchased plus $275 produced on the farm). That is, nearly one-half of the food came from the farm itself. Moreover, the food produced at home were the highly nutritious garden, dairy and poultry products. This emphasized further that in respect to food and nutrition the level of living was probably quite satisfactory and could remain so even with a very drastic reduction in cash farm income. It was the expenditure on non-food items that seemed too small to attain minimum standards in such things as housing, insurance protection and education.

SOCIAL FACILITIES

The area was provided with schools, churches and medical facilities. However, presence of these facilities did not necessarily mean that they were readily accessible to all and settlers in the outlying districts often found it difficult to avail themselves of these services to the fullest extent.

There were school buildings in the area located at an average distance of 2·8 miles from the farm dwellings (Table 22). Seventy-two per cent of the farms were within three miles and nearly all (94 per cent) were within six miles of a school. However, at the time of the survey a number of the public schools were temporarily closed because there was an insufficient number of pupils or because teachers were not available. The high schools were located only in the larger centres and 70 per cent of the farms were more than six miles from the nearest one. For a majority of the rural youth, it would be necessary to leave home and incur considerable expense if they wished to obtain the benefits of a high school training, and family expenditures on education indicated that this was seldom the case.

Other social facilities were also far removed from many of the settlers. One half of the farmers were more than six miles from their church and about one-third were situated similarly with respect to a community hall. The average distance was eight miles and six miles from church and community hall, respectively.

The average distance of the farms to a medical doctor was 15 miles; to a hospital was also 15 miles. Furthermore, about one-half were over 12 miles from either medical or hospital facilities (Table 22).

TABLE 22.—LOCATION OF THE FARMS WITH RESPECT TO CERTAIN SOCIAL SERVICES, PRINCE GEORGE-SMITHERS AREA, 1943-45

—	Up to 6 miles	6·1-12 miles	12·1-18 miles	18·1-30 miles	Average distance
	per cent	per cent	per cent	per cent	miles
Grade school	94	6	.....	.....	2·8
High school	30	36	14	20	13·0
Church	51	29	10	10	8·0
Community hall	63	25	7	5	6·0
Doctor	21	32	18	29	15·0
Hospital	21	32	16	31	15·0

Accentuating the effect of the sparse settlement which made these services almost unavailable to many settlers, was the fact that about one-half of the farm families had neither a car nor a truck (Table 22A). The remainder depended upon horses for transportation. Taken in conjunction with the fact that a high proportion of the farms were located more than six miles from medical and social services this pointed to the conclusion that many families lived in comparative isolation.

Telephones were almost entirely absent in the area and one-quarter of the farm homes had no radio (Table 22A).

TABLE 22A.—PROPORTION OF THE FARMS WITH CAR, RADIO AND TELEPHONE, PRINCE GEORGE-SMITHERS AREA, 1943-45

—	Per cent
Car or truck	57
Radio	76
Telephone	4

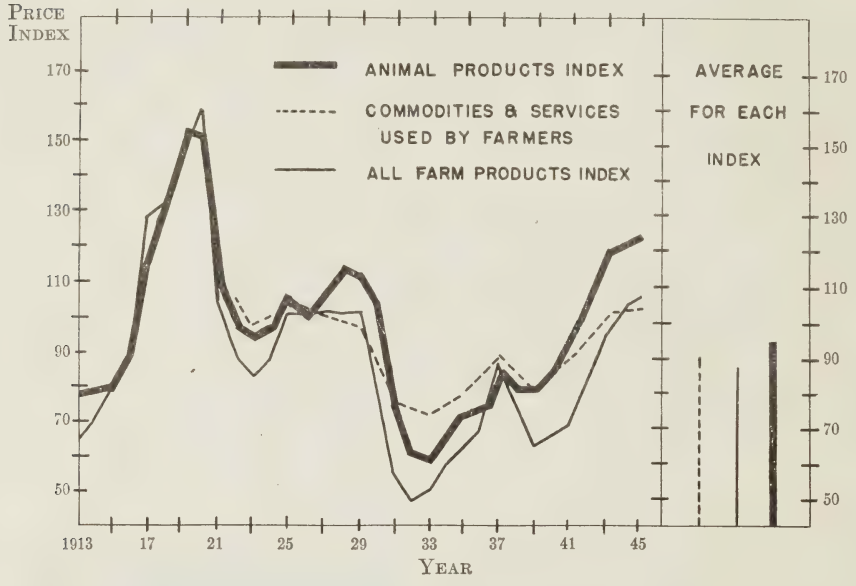
A field of alsike clover near Prince George.

THE FARM BUSINESS FOR THE YEAR OF STUDY

PRICES OF FARM PRODUCTS[1]

Farm prices for the years of the study were somewhat higher than the long-time average. The very familiar picture of the movement of farm product prices from 1913 to 1945 is shown in Figure 1. Using 1926 as the base year the indices for the 33-year period averaged 88·4. During the years to which the farm business records pertained the average price index of all farm products was 102·5 for 1943-44 and 103·6 for 1944-45; for animal products, the most important output of the farms of the study, the index averaged 98·3 for the 33-year period 122·2 and 121·5 for the two respective years with which the study was concerned. In short, the prices of things produced on the farms were high and the outlook for gross farm income in the year of the study was favourable.

FIG. 1.—INDEX OF FARM PRICES 1913-45
1926 = 100



The price index of commodities and services used by farmers is also shown in Figure 1. It appeared that increases in the prices of these cost items partly but not completely had offset the favourable price situation. The 24-year average price index (1926 = 100) of 8 commodities and services used by farmers was 91·4; the index for the years with which the study was concerned was 103·2. The farm price-cost relationships as they applied to the products produced on the farms of the study, therefore, were more favourable than the average situation; prices of animal products were 25 per cent above average and prices of commodities used in production were about 12 per cent above average.

THE CROP SEASON

Crop yield is also an important determinant of farm income. In interpreting the farm business analysis which follows, it must be borne in mind that while the crop for the year studied may be considered normal in the Prince George and Vanderhoof districts, it was definitely sub-normal at Smithers and François Lake.

[1] Data from *Prices and Price Indexes*, 1913-37, and Monthly Mimeographs 1938-45. Dominion Bureau of Statistics, Ottawa.

Concerning the crop seasons for the year studied the following quotations are cited from the annual reports of the District Agriculturists. "Although April and May were cool months, the season can be considered a normal one until the middle of July, when followed a wet period which continued until the end of August. The coarse grain crops yielded well in spite of some frost at Vanderhoof in August."[1]

"The total precipitation for the past twelve months has been 18·74 inches, which is higher than usual. The yields of forage and cereal crops, however, have been much lower than the average. This is no doubt due to the very low soil-moisture reserves this past spring."[2]

Winter wheat near Vanderhoof.

THE FARM TYPES

The natural conditions and location of the area with respect to markets were such that a fairly large number of commercial and non-commercial farm types had developed. For purposes of analysis it was necessary to arbitrarily define these farm types. This was done on the basis of farm returns. Crop and livestock farms were defined as those on which three-fourths of the farm returns came from crops and livestock, respectively. Mixed farms were those which fitted between the crop and livestock types. The specialty farms were crop or livestock farms on which two-thirds or more of the crop or livestock returns were from one source. These included vegetable seed, forage seed, whole milk and poultry farms. Also among the commercial farms was an off type, a small group whose operators had received a major portion of their gross income from custom work.

The non-commercial farms were operated for the most part for the direct contribution which they made to the operator's living. These farms were designated as part-time when non-farm income was greater than farm returns; as subsistence when the value of perquisites was more than three-fourths of farm returns plus non-farm income.

[1] Manning, James E., Nachako and Prince George. *In Thirty-Eighth Annual Report of Dept. of Agriculture, for the year 1943*, p. R 109. Prov. of B.C., Dept. Agr., Victoria 1944.

[2] Preston, S. G., Bulkley and Skeena Valley. *In Thirty-Ninth Annual Report of Dept. of Agriculture, for the year 1944*, p. S 106. Prov. of B.C., Dept. Agr., Victoria 1944.

The number of farms of some types was necessarily limited. For instance, comparatively few farmers could engage in whole milk production and find a market for their product. Similarly, only a limited number could depend upon custom work as a main source of income. The majority of the farms, then, produced for markets outside the area. As a general rule hay and grain fed to livestock could be marketed more advantageously than by direct sale. Consequently most farms were of the livestock and mixed types dependent mainly on income from the sale of live cattle, cream and poultry products.

Table 23 indicates the distribution of returns according to farm type. Over the whole area livestock returns and crop returns were, respectively, 67 and 26 per cent of total returns.

TABLE 23.—FARM RETURNS PER FARM BY TYPE OF FARM, PRINCE GEORGE-SMITHERS AREA, 1943-45

Farm Type	Number of Farms	Returns		
		Crop	Live stock	Other
		$	$	$
Part-time	48	123	260	28
Subsistence	26	0	127	18
Crop	16	803	0	32
Livestock	72	26	1,131	46
Mixed	65	694	748	117
Poultry	15	89	1,165	16
Whole milk	8	228	5,563	74
Vegetable seed	3	1,407	345	0
Forage seed	4	2,539	616	230
Off type	6	0	541	1,037
All farms	263	310	816	81

Grouping the farms by type made the variations stand out, but the overall figures indicate the relative importance of livestock production in the area.

Intensity of Livestock Production

Improved acreage and productive livestock units[1] per farm varied considerably with type of farm. The largest farm units were the whole milk farms with 173 acres of cropland and 30 productive livestock units per farm (Table 24). The extreme examples of intensity of the livestock enterprise were illustrated by the crop and livestock farms, which had 28·5 and 3·4 acres per productive livestock unit, respectively. Apart from these a typical livestock intensity appeared to be about five or six acres per productive livestock unit.

[1] A livestock unit is any of the following: one mature horse, one mature cow, 1·5 colts under two years of age, 1·5 steers or heifers under two years of age, three calves, seven sheep, three sows, five hogs raised to market weight, 100 chickens. Productive livestock units include all except horses and colts.

TABLE 24.—ACREAGE AND LIVE STOCK PER FARM BY TYPE OF FARM, PRINCE GEORGE-SMITHERS AREA, 1943–45

	Improved Acreage	Productive Livestock Units	Acres per Productive Livestock Unit
Part-time	59	8·6	6·9
Subsistence	39	7·0	5·6
Crop	74	2·6	28·5
Livestock	75	22·1	3·4
Mixed	104	16·8	6·2
Poultry	52	9·4	5·5
Whole milk	173	30·2	5·7
Vegetable seed	55	14·3	3·8
Forage seed	158	23·5	6·7
Off type	132	20·6	6·4
All farms	80	15·1	5·3

The Crop and Livestock Enterprises

The average farm in the area produced ten tons of grain and 40 tons of hay during the year. This is probably lower than normal due to the partial crop failure in the western portion of the area. The important point is that about 60 per cent of the feed value produced was in the form of hay.[1] In addition it was a common practice to utilize some of the area in forage crops as pasture for livestock. There were certain farms, notably at Vanderhoof, where grain crops exceeded forage crops in importance but for the most part feed was produced in the form of hay or pasture. As well as the feed produced on the cultivated land most farms had considerable pasture on unimproved land in the farm or on leased wild land.

TABLE 25.—PHYSICAL PRODUCTION PER FARM BY TYPE OF FARM, PRINCE GEORGE-SMITHERS AREA, 1943–45

Farm Type	Grain Production	Hay Production
	tons	tons
Part-time	6·4	27
Subsistence	2·0	25
Crop	12·8	34
Livestock	8·6	51
Mixed	18·6	43
Poultry	5·8	24
Whole milk	12·1	68
Vegetable seed	1·2	12
Forage seed	9·1	88
Off type	4·2	34

[1] One ton of grain is equivalent in feed value to 2½ tons of hay. See Vrooman, C. W., G. D. Chattaway, and Andrew Stewart, "Cattle Ranching in Western Canada", Appendix III. Dominion Department of Agriculture Technical Bulletin 55. 1946.

As a result cattle were the main livestock enterprise (Table 26). The hog enterprise was negligible. Hog production is a means of concentrating grain products for shipment from an area which is relatively remote from markets. In this area, then, the failure of that enterprise to develop may indicate that in most years there is a deficit of grain in the area.

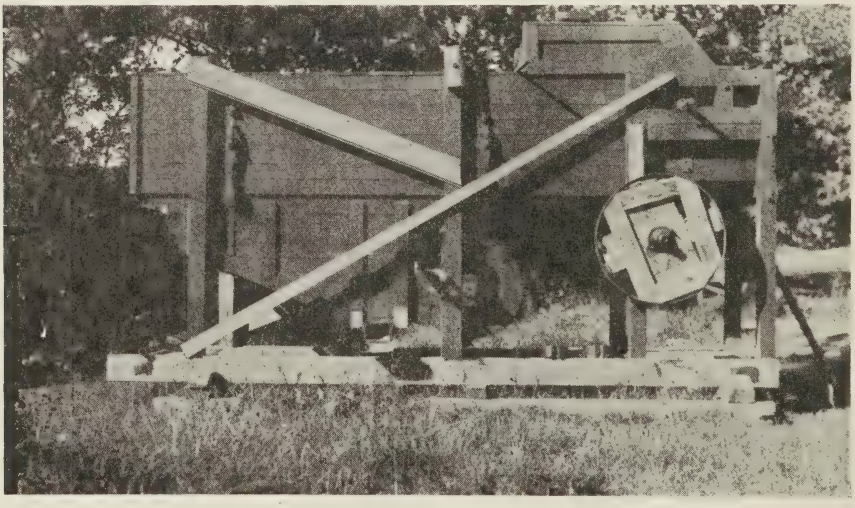
The whole milk producers were outstanding as the large operators of the area. Not only did they maintain the largest numbers of cattle but relative to the other types of farms their hog and poultry enterprises were also large.

TABLE 26.—LIVESTOCK UNITS PER FARM BY TYPE OF FARM, PRINCE GEORGE-SMITHERS AREA, 1943–45

Farm Type	Horses	Cattle	Sheep	Hogs	Poultry
Part-time	3·9	7·2	0·2	0·4	0·7
Subsistence	2·9	5·9	0·4	0·3	0·4
Crop	2·9	2·4	.....	.....	0·2
Livestock	4·8	17·5	2·0	1·4	1·1
Mixed	4·1	13·0	1·0	2·0	0·8
Poultry	2·5	6·1	0·1	0·3	2·9
Whole milk	5·5	24·6	.....	2·8	2·8
Vegetable seed	3·7	12·6	.....	0·9	0·8
Forage seed	4·3	22·2	.....	0·6	0·7
Off type	4·3	16·8	2·5	0·7	0·6

Labour

It was found in a pioneer study of northern Saskatchewan[1], 1942, that on full-time farms one man on the average could take care of 100 acres of cropland and seven productive livestock units. At that rate all commercial farms in this study would have required 268 man equivalents. They actually used 249. Labour efficiency, then, appeared to be similar enough in the two areas so that the rates derived in Saskatchewan could be used comparatively within this study area.



A homemade thresher.

[1] Stutt, R. A. and H. Van Vliet, "An Economic Study of Land Settlement in Representative Pioneer Areas of Northern Saskatchewan", Economics Division, Marketing Service, Dominion Department of Agriculture. Technical Bulletin No. 52. Issued 1945.

One of the reasons for the integration of livestock enterprises in a general farming program is that a productive outlet is provided for labour in the off seasons of crop production. This means of labour economy is illustrated in the varying efficiencies of labour on the divers farm types. Efficiency has been expressed as the percentage of man equivalents calculated on the basis of the results of the Saskatchewan study to man equivalents actually used (Table 27).

TABLE 27.—LABOUR EFFICIENCY ON THE COMMERCIAL FARM TYPES PRINCE GEORGE-SMITHERS AREA, 1943-45.

Farm Type	Man equivalents per farm		Labour efficiency
	Calculated Number	Actual Number	Calculated as per cent of actual
Crop	0·6	1·1	54
Livestock	1·5	1·3	115
Mixed	1·5	1·2	125
Poultry	0·8	1·0	80
Whole milk	2·5	2·4	104
Vegetable seed	1·0	1·6	62
Forage seed	2·1	2·2	95
Off type	1·8	1·5	120
All Farms	1·4	1·3	108

In comparing labour efficiencies between farm types it must be borne in mind that certain livestock or crop enterprises by their very nature require more labour per unit. For instance labour efficiency as calculated here is not a suitable basis on which to compare the farms specializing in vegetable seed or poultry production with other farm types. Between crop, livestock and

Modern equipment being used to windrow alsike prior to threshing or combining.

mixed farms, however, the figures for relative efficiencies are more meaningfur because of the similarity of the enterprises to those used to develop the laboul rating. Livestock enterprises, then, appeared to assist considerably in the economy of labour for the crop farms attained a labour efficiency index of 54 compared with 115 and 125 on the livestock and mixed farms, respectively.

At the time of the survey farmers had to compete for the labour they required against the thriving logging industry. Consequently, wages were high and the importance of attaining a fairly high level of labour efficiency was, therefore, essential. Moreover, even on farms where no labour was hired the effective use of labour was important in order to maintain earnings equal to the prevailing alternative wage. That many commercial farms were on or below this margin is illustrated by the fact that labour earnings per family on all commercial farms averaged $696, approximately one-third less than the $980 that the average part-time farmer earned off the farm.

On the average the amount of labour hired was small. At Prince George-Vanderhoof 1943-44, hired labour amounted to 20 days per farm. Wages had averaged $56 plus board per month. Smithers farmers had hired 14 days of labour per farm in 1944-45 at an average wage of $89 per month plus board.

Power

Horses were the usual source of farm power. Seventy-one per cent of the farms depended upon them exclusively. The remainder had a tractor but almost without exception used it in conjunction with horses.

Table 28 indicates the cost of operating those tractors. The total cost amounted to $1.08 per hour which included the fixed cost of 43 cents (depreciation and interest on investment). The fixed cost was relatively high because tractors were only operated on the average for 300 hours per year. On 15 farms where tractors had been operated more than 300 hours per year the average total hourly cost was 79 cents. Most farmers, however, were in the position that they had only 200 or 300 hours of work for a tractor. Against total returns of less than $1,000, which was typical of a majority of farms, an operating and depreciation cost of $200 to $300 was quite large and probably accounted for the predominance of horses for power. Moreover, except for the more recent models, tractors have not had the versatility necessary to replace all horses on the farm. Consequently, a farm operator required at least two horses whether or not he had a tractor and perhaps without a tractor would only require four or five. The cost of tractor operation, then, had to be balanced against the cost of keeping two or three horses. Under those circumstances there is little doubt that horses were the more economical source of power. Furthermore, no cash outlay was needed for horse feed, all of which could be produced on the farm.

TABLE 28.—COST OF TRACTOR OPERATION PER TRACTOR
PRINCE GEORGE-SMITHERS AREA, 1943-45

	$
Tractor value	603
Operated during year, hours	301
Operating costs per hour	
Fuel	0·54
Repairs	0·11
Interest at 5%	0·10
Depreciation	0·33
Total	1·08

INCOME

"Family labour earnings" and "family farm surplus" have been used to express the financial results of the year's business. The two figures express the net return to farm operators in forms suitable for different purposes.

"Family labour earnings" is the remainder when cash expenses and interest on capital have been subtracted from cash receipts, adjustments have been made for changes in inventory and the value of perquisites has been added.

The farm business, however, is to a large degree integrated with the life of the operator and his family. That is to say, certain basic living expenses must have a priority over capital return and can be treated as a farm expense for a farm family must have a living before a surplus is available for debt retirement, farm expansion or savings accumulation. Agricultural progress and farm solvency, then, depend largely on this farm surplus. Moreover, it is a particularly important measure on farms where capital must be invested in farm development such as land clearing. The advisability of making the investment and the ability to repay principal and interest if money is borrowed for the investment both depend upon a surplus above living expenditures.

In order to arrive at the family farm surplus, farm income was calculated first. Farm income is cash farm receipts minus expenses with adjustments for inventory changes. From farm income $700 was subtracted to obtain farm surplus. This sum is the average expenditure on living on all farms in the area.[1] It also closely represents the average living expenditures of a man, wife and two children under 15 years of age.

Farm Income in British Columbia and the Study Areas

In 1943 the average farm income per farm for the whole of British Columbia was estimated at $1,149. On 159 farm records analysed in the Prince George-Vanderhoof districts, 1943-44, a comparable figure was $363. In 1944 farm income increased to $1,517 per farm in British Columbia. On 104 farms at Smithers-Francois Lake it averaged $414. In neither of the districts studied, then, was the farm income equal to the average living expenditure of $700 per farm. A situation in which expenditures are higher than income seems incongruous. In this case it is explained partly by the fact that many farmers earned considerable amounts outside the farm, partly because new farm investments or savings were not large enough to offset the depreciation on farm capital.

The perquisites, that is, the items of non-money farm income, were approximately one-third higher on the farms included in this study than on the average farm in British Columbia. Moreover, they were 20 per cent of total income on all British Columbia farms but 60 per cent on the farms included in this study. High perquisites are usually associated with pioneer farming. The indications were, then, that many farms in the study area were still in the pioneer or developmental stage.

TABLE 29.—FARM INCOME AND PERQUISITES PER FARM IN BRITISH COLUMBIA, 1943 AND 1944 AND IN PRINCE GEORGE-SMITHERS AREA, 1943-45

—	British Columbia[2] 1943	Prince George-Vanderhoof 1943–44	British Columbia[3] 1944	Smithers-Francois Lake 1944–45
	$	$	$	$
Farm income	1,149	363	1,517	414
Perquisites	337	473	337	448
Total	1,486	836	1,854	862

[1] See Table 19.

[2] Quarterly Bulletin of Agricultural Statistics, Vol. 37, No. 1. Dominion Bureau of Statistics, Ottawa. Depreciation charges were adjusted upward to compare with Farm Management Studies.

[3] Calculated from data in Quarterly Bulletin of Agricultural Statistics, Vol. 38, No. 1. Dominion Bureau of Statistics, Ottawa.

Family Labour Earnings and Non-Farm Income

Family labour earnings, non-farm income and total income are tabulated in Tables 30, 31 and 32. On the part-time farms total income amounted to $850, $1,135 and $972 per farm in the three respective districts (Table 30). The income was almost entirely of the non-farm type; labour earnings from the farm were small or negative. It appeared, then, that the benefits that the part-time farmers had received from their farms were mainly the opportunities to obtain items of food at farm prices, house rent at a reasonable rate and some security in the event of cessation of outside employment.

TABLE 30.—FAMILY LABOUR EARNINGS[1] AND NON-FARM INCOME ON NON-COMMERCIAL FARMS, PRINCE GEORGE-SMITHERS, 1943-45

Area	Farm Type	Number of Farms	Family Labour Earnings	Non-farm Income	Total Income
			$	$	$
Prince George	Part-time	19	−66	916	850
	Subsistence	11	73	239	312
Vanderhoof	Part-time	8	129	1,006	1,135
	Subsistence	10	85	276	361
Smithers-Francois Lake	Part-time	21	−56	1,028	972
	Subsistence	5	−614	389	−225

The total income of the livestock, mixed and off types farms had averaged approximately the same as the part-time (Table 31). The main part of the income, however, was from the farm, only $150 to $300 being non-farm income. "Labour earnings" on the crop farms in each of the three districts was notably low and probably indicated that farm programs based on livestock enterprises were the most satisfactory throughout the area.

TABLE 31.—LABOUR EARNINGS AND NON-FARM INCOME ON COMMERCIAL NON-SPECIALTY FARMS, PRINCE GEORGE-SMITHERS, 1943-45

Area	Farm Type	Number of Farms	Family Labour Earnings	Non-farm Income	Total Income
			$	$	$
Prince George	Crop	8	29	0	29
	Livestock	15	767	116	883
	Mixed	20	602	221	823
Vanderhoof	Crop	3	137	111	248
	Livestock	28	718	158	876
	Mixed	25	1,023	180	1,203
Smithers-Francois Lake	Crop	5	268	260	528
	Livestock	29	372	149	541
	Mixed	20	644	350	994

There were a few specialty product farms in the area. Those producing poultry had not made significantly better earnings than the ordinary livestock farm type (Table 32). On the other hand, forage seed, vegetable seed and whole milk producers netted the highest earnings in each district of any farm type.

[1] Details of receipts and expenditures are shown in Appendix II.

TABLE 32.—FAMILY LABOUR EARNINGS AND NON-FARM INCOME ON COMMERCIAL SPECIALTY AND OFF TYPE FARMS, PRINCE GEORGE-SMITHERS, 1943-45

Area	Farm Type	Number of Farms	Family Labour Earnings	Non-farm Income	Total Income
			$	$	$
Prince George	Forage seed	2	2,050	50	2,100
	Poultry	6	427	161	588
	Off Type	2	775	200	975
Vanderhoof	Poultry	1	740	21	761
	Off Type	1	550	335	885
Smithers-Francois Lake	Vegetable seed	3	1,127	440	1,567
	Forage seed	2	995	390	1,385
	Whole milk	8	2,111	106	2,217
	Poultry	8	242	254	496
	Off Type	3	897	150	1,047

Family Farm Surplus[1]

The average surplus for all farms in the study was $317. As may be seen from Table 33, there were large variations according to farm type. The non-commercial types in each area netted the lowest surplus while some of the commercial specialty types netted the highest. The majority of the farms, however, fell in the commercial non-specialty types (crop, livestock and mixed) and the average surplus for these groups was negative; the mixed farms at Prince George-Vanderhoof earned $71 but the remainder showed negative surpluses.

TABLE 33.—FAMILY FARM SURPLUS BY TYPE OF FARM, PRINCE GEORGE-SMITHERS, 1943-45

	Family Farm Surplus			
	Prince George-Vanderhoof		Smithers-Francois Lake	
	Number	$	Number	$
Non-Commercial:				
Part-time	27	−970	21	−866
Subsistence	21	−840	5	−1,273
Commercial non-specialty:				
Crop	11	−578	5	−439
Livestock	43	−125	29	−428
Mixed	45	71	20	−98
Commercial specialty:				
Vegetable seed	.....	.....	3	185
Forage seed	2	1,331	2	746
Whole milk	.....	.....	8	1,645
Poultry	7	−425	8	−513
Off type	3	−320	3	75

The surplus on the specialty farms amounted to $1,038, $1,645 and $185 on the forage seed, whole milk and vegetable seed farms, respectively. The poultry farms surpluses were low, being −$425 and −$513 in the two respective districts. The reason is that those farms did not represent highly organized efficient poultry producers. Rather they tended to be small farms on which the poultry enterprise predominated.

[1] A $700 allowance for living expenditure has been subtracted from farm income to obtain farm surplus.

Family Farm Surplus on Livestock and Mixed Farms

The livestock and mixed farms constitute what may be designated the typical farm types in the area. Accordingly they were subjected to a more detailed analysis than other types with respect to farm surplus.

On these farms, as might be expected, the number of productive livestock units per farm proved to be the most important factor influencing farm surplus. Moreover, productive livestock units also were associated closely with improved acreage per farm. The relationships are indicated in Table 34. Most noteworthy is the fact that the progression from a smaller to a larger farm unit is associated with a fairly regular increase in farm surplus.

TABLE 34.—FAMILY FARM SURPLUS AND IMPROVED AREA PER FARM ON LIVESTOCK AND MIXED FARMS BY PRODUCTIVE LIVESTOCK UNITS, PRINCE GEORGE-SMITHERS AREA 1943-45

Productive livestock units	Number	Improved area	Family farm surplus[1]
Number		acres	$
Prince George			
1–14	26	39	−290
15–24	8	69	−93
25–34	1	75	347
35+			
Vanderhoof			
1–14	18	68	−220
15–24	16	92	−186
25–34	9	102	269
35+	10	159	1,027
Smithers			
1–14	19	84	−136
15–24	15	108	−96
25–34	6	141	−68
35+	1	162	122
Francois Lake			
1–14			
15–24	3	134	−225
25–34	2	116	−94
35+	3	139	38

In order to present these data more clearly, they are illustrated graphically[2] in Figures 2, 3, 4 and 5. In these figures a straight line drawn parallel to the base will show the probable farm surplus from a farm the size of which is measured in productive livestock units and the associated acres of cropland.

[1] Adjusted to offset partial crop failure at Smithers and Francois Lake. The value of grain and hay purchased and reduction in feed inventory was added to farm surplus. On Prince George and Vanderhoof farms the increase in feed inventory value completely offset the value of grain and hay purchased.

[2] For graphic presentation the data of Table 34 were smoothed. Since the relationship was clearly linear smoothing consisted of fitting a straight line by the least squares method to the data plotted on arithmetic scale paper. The relationships in each district were found to be as follows:—

Prince George:
Improved acres=30+1·7 (productive livestock units)
Farm surplus = −571+30·5 (productive livestock units)

Vanderhoof:
Improved acres = 55+1·7 (productive livestock units)
Farm surplus = −527+25·2 (productive livestock units)

Smithers:
Improved acres = 56+2·8 (productive livestock units)
Farm surplus = −259+8·8 (productive livestock units)

Francois Lake:
Improved acres = 112+0·6 (productive livestock units)
Farm surplus = −518+14·0 (productive livestock units)

FIG. 2.—FAMILY FARM SURPLUS ACCORDING TO PRODUCTIVE LIVESTOCK UNITS AND IMPROVED ACREAGE, PRINCE GEORGE DISTRICT, 1943–44

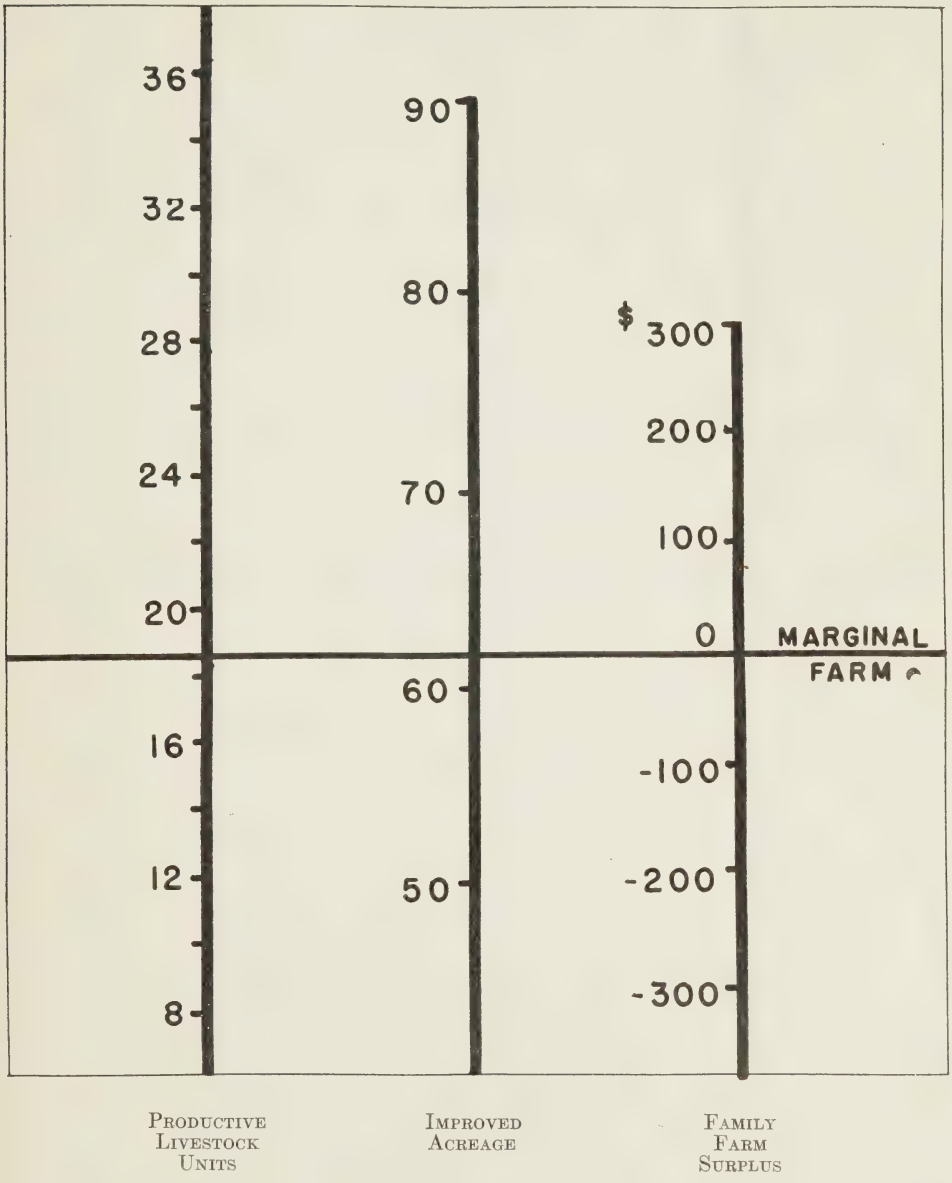


FIG. 3.—FAMILY FARM SURPLUS ACCORDING TO PRODUCTIVE LIVESTOCK UNITS AND IMPROVED ACREAGE, LIVESTOCK AND MIXED FARMS, VANDERHOOF DISTRICT, 1943–44

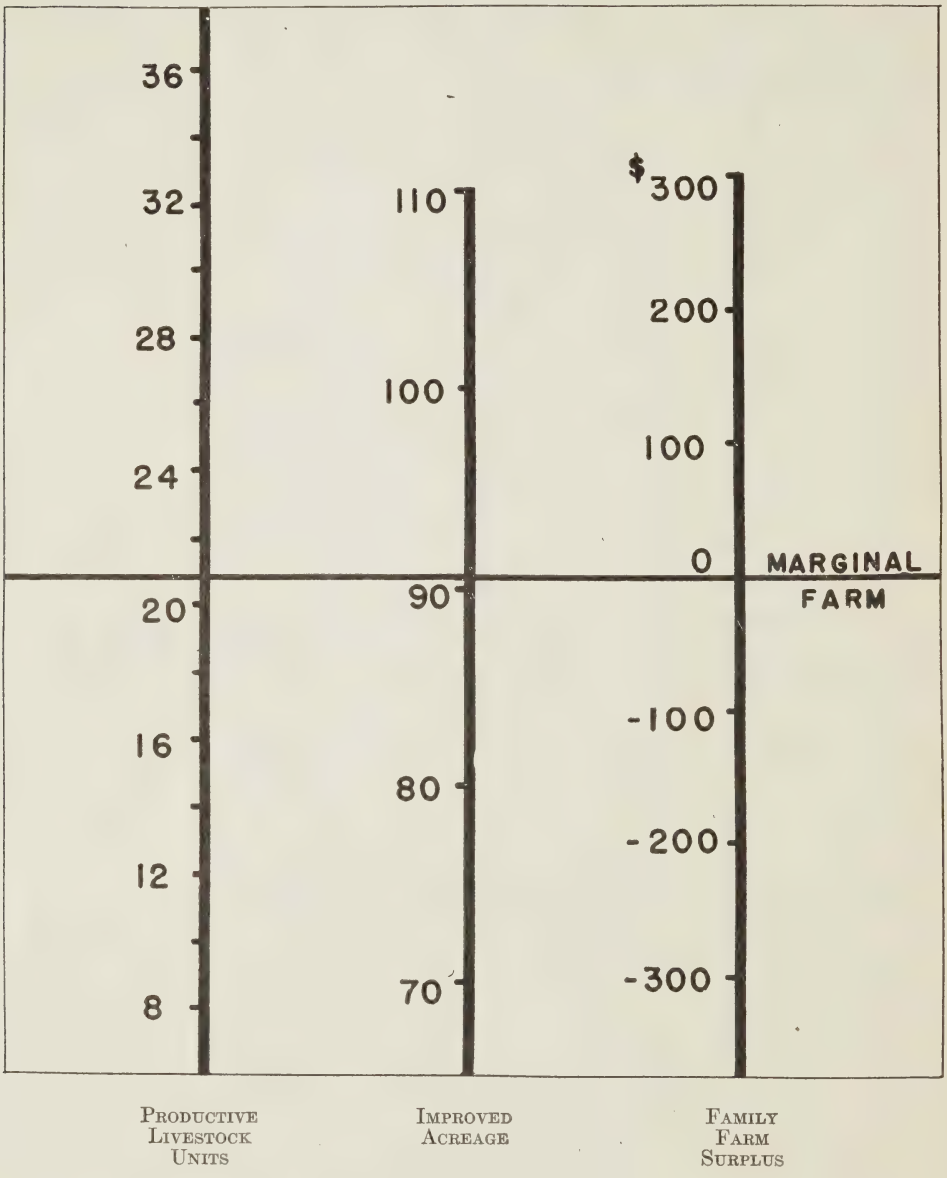


FIG. 4.—FAMILY FARM SURPLUS ACCORDING TO PRODUCTIVE LIVESTOCK UNITS AND IMPROVED ACREAGE, LIVESTOCK AND MIXED FARMS, SMITHERS DISTRICT, 1944–45

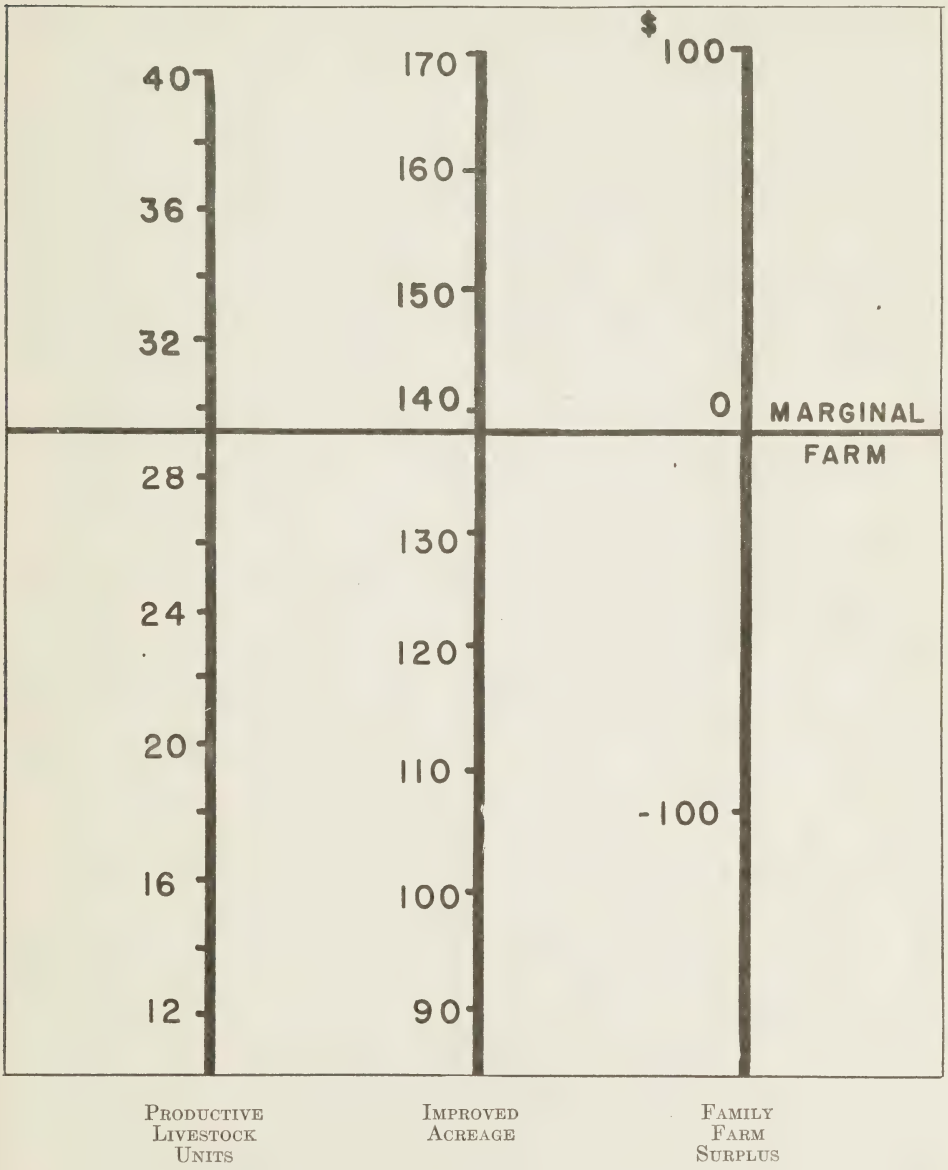
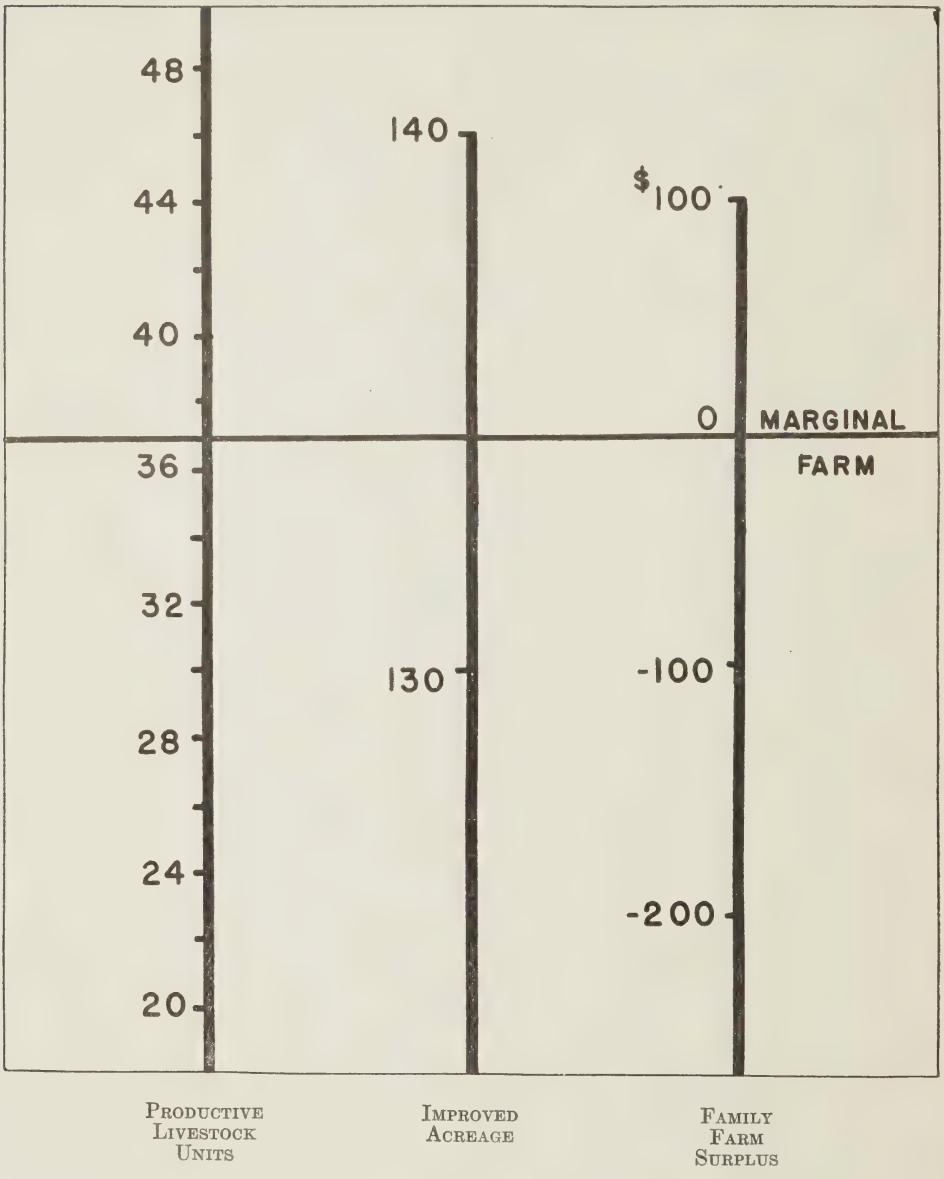


Fig. 5.—Farm Surplus According to Productive Livestock Units and Improved Acreage, Livestock and Mixed Farms, Francois Lake District, 1944–45



The data portrayed in the Figures centre about the marginal farm. This is represented by the straight line drawn through zero farm surplus. The marginal farm would represent that farm which, during the year of the study, paid operating and depreciation expenses and $700 to the operator. It netted no surplus for interest on investment, debt retirement or savings.

A marginal farm, then, would fall short of being a satisfactory farm unit in at least two respects. First, a farmer with owned capital legitimately could expect to earn a fair rate of interest on it. Second, a farmer with borrowed capital would need a surplus with which to make the annual payments of interest and principal. The latter farmer definitely would require additional income if living expenditures were to be maintained at $700 per year. The satisfactory farm, then, is somewhat larger than a marginal one.

The probable surplus also gives an indication of the debt-carrying capacity of the farm. As an example, the operator of a farm which netted a surplus of $100 would be able to make the annual payment necessary to amortize a loan of $1,485 in 25 years at an interest rate of 4½ per cent.

From the figures the marginal farms appear to be approximately as follows:

19 productive livestock units and 63 acres of cropland at Prince George; 21 productive livestock units and 90 acres of cropland at Vanderhoof; 29 productive livestock units and 135 acres of cropland at Smithers; 37 productive livestock units and 135 acres of cropland at Francois Lake.

It is necessary to make some reservations in interpreting the results shown. The crop in the Smithers and Francois Lake districts was a partial failure in the year of the study and it is improbable that it was completely offset by the favourable price of farm products which prevailed. In all probability, then, the farm unit in those districts that will return a positive farm surplus over a period of years is somewhat smaller than is indicated by the data. At Prince George and Vanderhoof the crop was more nearly normal. It may be, then, that because of the favourable price situation prevailing at the time of the study the minimum size that would ensure solvency on a long time basis would be somewhat larger than was indicated by the data.

CONCLUSIONS

The study indicates that the rate of progress in agricultural development in the area had been fairly slow. This serves to emphasize the difficulties which face a settler who attempts to improve forested land. The fact, too, that farm income per farm in the area was only one-half of the provincial average suggests the desirability of a considerable adjustment in many farm businesses.

Two factors which have been instrumental in retarding agricultural development in the area are worthy of consideration in the light of this study. The first is the cost of bringing the forested land under cultivation. The second is the handicap of comparatively high shipping costs from the area.

The first factor is particularly significant in view of the direct relationship which appeared to exist between size of farm business and income. Under typical production practices of the area livestock and improved acreage were the important components which determined size of farm business. Improved acreage, though, tended to be the limiting factor for land had been brought under cultivation only at a fairly slow rate. By hand labour it would require 15 to 65 years to clear the 60 to 135 acres needed for the minimum satisfactory farm unit. It was understandable, then, why more than one-half of the farms were still below the minimum satisfactory size.

The first step, then, in the solution of the problem would seem to be in the extension of improved acreage on existing farms to the minimum indicated by the study. Since the farm capital to a large extent already exists on these farms much of the labour return from additional acreage would be net. On those grounds the extension of improved acreage could be justified even at a fairly high cost.

With respect to the creation of new farms the physical factors of forest cover and soil need to be considered more carefully. From the study soil type appeared to be lesser in importance. No significant differences in farm income were found associated with different arable soil types. Cost of clearing, however, and its relationship to probable farm surplus are obviously major considerations. As a sound basis for settlement probable farm surplus should be sufficient to offer a reasonable return on the capital invested in land development and farm equipment.

It is probable, too, that some outside employment can continue as part of a sound agricultural program. If wages can be earned off the farm at a time of the year when outside employment does not seriously interfere with farm operations, then it is equivalent to an increase in farm surplus by the amount earned.

With respect to the second factor, it may be that a solution worthy of consideration would be a search for a product in which the area would have definite production advantages. The success achieved by the few forage crop seed producers suggests that this enterprise has some of those advantages. The fact is, however, that throughout the area the acreage devoted to forage crop seed is not large. Nevertheless, the clovers and timothy grow well in the area and it seems that this natural adaptation could be more fully exploited. It may be that production problems are the limiting factor. In that case intensive research in those problems probably would be well repaid.

APPENDIX I

Soils and Vegetation[1]

The Chilako Association is the most extensive of the non-arable group of soils. It has been developed on glacial till and consists of medium to light textured soils. The tree cover, mainly lodgepole pine and spruce is valuable as building material and fuel. The soil survey considers the Association unarable because of the heavy forest cover, stoniness, coarse texture and lack of subsurface water.

The Barrett Association likewise was derived from glacial till. The topography is generally unfavourable, varying from rolling to mountainous. In addition heavy clearing is required and stoniness prevails. As a result these soils are deemed more suitable for forests than for agriculture. Vegetation consists mainly of lodgepole pine, which varies in density from thin to commercial stands.

The Gunniza Association is considered the poorest soil of the area. It is gravelly and stony, low in organic matter and low in moisture-holding capacity. It is most often found associated with the Chilako Association.

The Eena Association is lacustrine in origin. It is a sandy soil free of stones. Drainage is excessive and as a result only small depressional areas are suitable for agriculture. These small areas are, however, seldom large enough for a farm unit. With those exceptions the Association is non-arable.

The Mapes Association is also lacustrine in origin. It is generally a rather unproductive soil and is considered to be on the border line of arability. The texture is coarse, organic matter and moisture-holding capacity are low. The natural vegetation is lodgepole pine, characterized by open stands of mature trees which are valuable as firewood and fencing material only.

The Saxton and Giscome Associations are of small extent. They are found on gravelly water-worked deposits. Excessive drainage makes these soils unsuitable for agriculture.

The Braeside Association, similar in origin to the Saxton, is low in organic matter, poor in water-holding capacity and is considered best used when left in its forested state.

The arable Associations are ten in number. Generally they consist of lacustrine and alluvial deposits and the soils developed on glacial till where the topography is suitable for cultivation.

The Pineview Association is a clay soil, lacustrine in origin. Except for the hilly phases, which occupy relatively small areas, the soils of this Association are arable. However, because of the cost of clearing the forest cover about one-half of the area has been classified as temporarily non-arable. The natural forest on that part consists of a heavy growth of lodgepole pine and spruce. On the other hand the area occupied mainly by aspen and willow is suitable for agricultural development.

The soil in general lacks organic matter and the heavy texture impedes spring drainage. Alsike clover is recommended as a crop that will add organic matter and probably also increase the permeability of the soil. In spite of its faults, when this soil is properly managed grain and hay crops yield well.

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[1] Summarized from Farstad, L. and D. G. Laird, "Soil Survey of Vanderhoof-Smithers Area, British Columbia," Unpublished; and from Kelley, C. C. and L. Farstad, "Soil Survey of the Prince George Area, British Columbia," British Columbia Soil Survey Report No. 2. 1946.

The Vanderhoof Association is a heavy textured soil of lacustrine origin. A very small percentage is too hilly for cultivation. The remainder is undulating to rolling and practically stone free.

The natural forest consists of both deciduous and evergreen trees, including aspen, willow, lodgepole pine and spruce. From a settler's point of view the heavy clearing involved is an impediment to progress.

Agriculturally the Association is a fertile soil for the cereals, oats, wheat and barley and the legumes, alfalfa and alsike clover. Problems associated with the management of this soil are slow drainage in the spring and a propensity to bake later on in the season.

The Bednesti Association is a silt deposit. About one-third of the area is in a hilly phase considered non-arable. The arable phase is well drained and more easily handled than the clay soils. The natural vegetation of spruce and lodgepole pine is heavy enough to make clearing rather costly. Once cleared the yields of grain, timothy and alsike are quite satisfactory. In general the organic matter and available minerals in the soil are low and need to be conserved and supplemented.

The Doughty Association is a heavy water-laid soil that has been developed under a forest cover. When cleared it is considered arable and agriculturally quite similar to the Vanderhoof clay. The forest cover however, is heavier and more costly to remove. It consists mainly of large fir and pine valuable for commercial lumbering.

The Driftwood Association has been developed on glacial till and consists mainly of a medium textured soil. It covers quite an extensive area in the western portion of the survey area. It is a fertile soil for grains, grasses and legumes. Moreover, much of it is fairly easily cleared of a light forest growth. It is however, considered to be only about two-thirds arable because of stoniness and hilly topography. Even the undulating and rolling lands, which are the phases suitable for cropping, present a serious problem in soil erosion during the spring run-off period. As a result much of the land is kept in grass.

The Nulki Association is a heavy soil developed on a lacustrine deposit. It is considered to be one of the best soils of the region. The organic matter is high enough to give the soil a good granular structure. Agriculturally it is well suited for coarse grains, alfalfa and clover.

The Prairiedale Association has been developed on silty lacustrine deposits. The topography is level, drainage is adequate and stones are almost entirely absent. It is an excellent soil for oats, wheat and barley. Moreover, it is fairly easily cleared of its natural vegetation, consisting chiefly of a light growth of aspen.

The Telkwa Association is a heavy-textured alluvial soil. The topography is undulating and surface drainage is good. The natural vegetation consists of aspen and willows which can be cleared fairly easily. Agriculturally this Association is well suited to coarse grain, grass and legume production.

The Fraser Association is an alluvial soil. The natural forest is very often a heavy growth of deciduous trees which has followed the burned over coniferous forest. The cost of clearing is therefore an impediment to development. Once cleared the soil is best adapted to grain, timothy and alsike clover. Of the important soil constituents, organic matter particularly needs to be added to the soil.

The Nechako Association has developed on silty alluvium. The total area is arable and is a fairly good agricultural soil. The location of these soils only slightly above river level makes them subject to frost. Consequently, they are best suited to the clovers or timothy.

There is in addition to the Associations mentioned a class of undifferentiated alluvial soils, a large part of which is arable and very productive. They are in general quite similar to the Nechako Association.

APPROXIMATE AREAS OF VARIOUS SOIL ASSOCIATIONS, PRINCE GEORGE-SMITHERS AREA

Association	Total Acres	Arable Acres	Non-Arable Acres
Chilako	750,319	.....	750,319
Barrett	290,400	.....	290,400
Gunniza	9,408	.....	9,408
Eena	54,051	.....	54,051
Mapes	8,450	.....	8,450
Saxton	12,786	.....	12,786
Giscome	33,092	.....	33,092
Braeside	48,940	.....	48,940
Pineview	309,690	294,182	15,508
Vanderhoof	277,500	273,850	3,650
Bednesti	57,897	48,069	9,828
Doughty	7,090	7,090	.....
Driftwood	155,540	106,820	48,720
Nulki	6,120	6,120	.....
Prairiedale	11,340	11,340	.....
Telkwa	14,140	14,140	.....
Fraser	38,579	38,579	.....
Nechako	26,800	26,800	.....
Other	5,472	5,472	.....
Total	2,117,614	832,462	1,285,152

APPENDIX II

ITEMIZED CASH FARM RECEIPTS AND EXPENSES ON PART-TIME FARMS BY DISTRICT, PRINCE GEORGE-SMITHERS AREA, 1943-45

—	Prince George	Vanderhoof	Smithers-Francois Lake
	$	$	$
Sales—			
Crop	102	350	173
Livestock	214	149	330
Other farm produce	76	164	112
Miscellaneous	31	18	49
Total	423	681	664
Expenses—			
Taxes	27	27	40
Feed	45	35	90
Equipment repairs	14	24	16
Building repairs	11	58	9
Tractor and thresher	13	59	18
Auto and truck	38	91	51
Hired labour	29	10	68
Miscellaneous[1]	203	231	114
Total	380	535	406
Capital expenditures	485	280	232
Inventory change	132	1	−210
Number of farms	19	8	21

ITEMIZED CASH FARM RECEIPTS AND EXPENSES ON SUBSISTENCE FARMS BY DISTRICT, PRINCE GEORGE-SMITHERS AREA, 1943-45

—	Prince George	Vanderhoof	Smithers-Francois Lake
	$	$	$
Sales—			
Crop	31	38	20
Livestock	124	232	242
Other farm produce	54	51	74
Miscellaneous	38	3	16
Total	247	324	352
Expenses—			
Taxes	20	16	65
Feed	37	35	60
Equipment repairs	12	3	27
Building repairs	22	7	6
Tractor and thresher			37
Auto and truck	37	15	60
Hired labour	2	5	52
Miscellaneous[1]	95	121	91
Total	225	202	398
Capital expenditures	154	228	850
Inventory change	−39	−5	204
Number of farms	11	10	5

[1] Custom work is the largest item included here. Also included are cash rent, blacksmithing, small hardware, binder twine and fire insurance.

ITEMIZED CASH FARM RECEIPTS AND EXPENSES ON CROP FARMS BY DISTRICT, PRINCE GEORGE-SMITHERS AREA, 1943-45

—	Prince George	Vanderhoof	Smithers-Francois Lake
	$	$	$
Sales—			
Crop	445	787	910
Livestock	68	220	82
Other farm produce	91	7	184
Miscellaneous	44	39	18
Total	648	1,053	1,194
Expenses—			
Taxes	21	52	61
Feed	.....	.....	6
Equipment repairs	4	7	17
Building repairs	24	5	51
Tractor and thresher	23	.....	.....
Auto and truck	22	19	33
Hired labour	52	7	78
Miscellaneous[1]	148	515	164
Total	294	605	410
Capital expenditures	184	5	370
Inventory change	−58	−320	−56
Number of farms	8	3	5

ITEMIZED CASH FARM RECEIPTS AND EXPENSES ON LIVESTOCK FARMS BY DISTRICT, PRINCE GEORGE-SMITHERS AREA, 1943-45

—	Prince George	Vanderhoof	Smithers-Francois Lake
	$	$	$
Sales—			
Crop	89	72	58
Livestock	411	742	626
Other farm produce	515	460	534
Miscellaneous	82	78	41
Total	1,097	1,352	1,259
Expenses—			
Taxes	30	39	44
Feed	95	95	164
Equipment repairs	19	21	20
Building repairs	23	22	27
Tractor and thresher	19	63	5
Auto and truck	68	68	78
Hired labour	8	75	66
Miscellaneous[1]	140	177	166
Total	402	560	570
Capital expenditures	179	234	509
Inventory change	7	36	85
Number of farms	15	28	29

[1] *Ibid.*

ITEMIZED CASH FARM RECEIPTS AND EXPENSES ON MIXED FARMS BY DISTRICT, PRINCE GEORGE-SMITHERS AREA, 1943-45

—	Prince George	Vanderhoof	Smithers-Francois Lake
	$	$	$
Sales—			
Crop	364	978	618
Livestock	355	979	452
Other farm produce	210	160	402
Miscellaneous	59	201	183
Total	988	2,318	1,655
Expenses—			
Taxes	26	63	65
Feed	18	42	52
Equipment repairs	15	40	35
Building repairs	29	14	14
Tractor and thresher	20	127	101
Auto and truck	64	115	86
Hired labour	25	156	112
Miscellaneous[1]	183	246	203
Total	380	803	668
Capital expenditures	293	864	614
Inventory change	112	362	217
Number of farms	20	25	20

ITEMIZED CASH FARM RECEIPTS AND EXPENSES ON POULTRY FARMS BY DISTRICT, PRINCE GEORGE-SMITHERS AREA, 1943-1945

—	Prince George	Vanderhoof	Smithers-Francois Lake
	$	$	$
Sales—			
Crop	37	280	56
Livestock	255	890	271
Other farm produce	1,085	1,680	730
Miscellaneous	18	.....	22
Total	1,395	2,850	1,079
Expenses—			
Taxes	34	114	32
Feed	228	75	274
Equipment repairs	14	28	21
Building repairs	80	25	12
Tractor and thresher	30	266	8
Auto and truck	80	162	137
Hired labour	32	.....	19
Miscellaneous[1]	172	778	255
Total	670	1,448	758
Capital expenditures	313	220	170
Inventory change	−188	−640	36
Number of farms	6	1	8

[1] *Ibid.*

ITEMIZED CASH FARM RECEIPTS AND EXPENSES ON WHOLE MILK FARMS BY DISTRICT, PRINCE GEORGE-SMITHERS AREA, 1943-45

—	Prince George	Vanderhoof	Smithers-Francois Lake
	$	$	$
Sales—			
Crop			201
Livestock			1,244
Other farm produce			4,474
Miscellaneous			231
Total			6,150
Expenses—			
Taxes			102
Feed			900
Equipment repairs			99
Building repairs			78
Tractor and thresher			275
Auto and truck			253
Hired labour			978
Miscellaneous[1]			685
Total			3,370
Capital expenditures			1,660
Inventory change			1,098
Number of farms	0	0	8

ITEMIZED CASH FARM RECEIPTS AND EXPENSES ON VEGETABLE SEED FARMS BY DISTRICT, PRINCE GEORGE-SMITHERS AREA, 1943-45

—	Prince George	Vanderhoof	Smithers-Francois Lake
	$	$	$
Sales—			
Crop			1,373
Livestock			317
Other farm produce			193
Miscellaneous			207
Total			2,090
Expenses—			
Taxes			41
Feed			10
Equipment repairs			28
Building repairs			22
Tractor and thresher			109
Auto and truck			126
Hired labour			57
Miscellaneous[1]			156
Total			549
Capital expenditures			735
Inventory change			80
Number of farms	0	0	3

[1] *Ibid.*

ITEMIZED CASH FARM RECEIPTS AND EXPENSES ON FORAGE SEED FARMS BY DISTRICT, PRINCE GEORGE-SMITHERS AREA, 1943-45

—	Prince George	Vanderhoof	Smithers-Francois Lake
	$	$	$
Sales—			
Crop	2,155	.....	2,520
Livestock	720	.....	615
Other farm produce	335	.....	25
Miscellaneous	160	.....	310
Total	3,370	.....	3,470
Expenses—			
Taxes	62	.....	80
Feed	9	.....	.....
Equipment repairs	49	.....	110
Building repairs	16	.....	50
Tractor and thresher	90	.....	48
Auto and truck	198	.....	331
Hired labour	140	.....	760
Miscellaneous[1]	501	.....	92
Total	1,065	.....	1,471
Capital expenditures	156	.....	849
Inventory change	−130	.....	165
Number of farms	2	.....	2

ITEMIZED CASH FARM RECEIPTS AND EXPENSES ON OFF TYPE FARMS BY DISTRICT, PRINCE GEORGE-SMITHERS AREA, 1943-45

—	Prince George	Vanderhoof	Smithers-Francois Lake
	$	$	$
Sales—			
Crop	.....	.....	210
Livestock	590	.....	810
Other farm produce	135	30	120
Miscellaneous	1,345	360	1,167
Total	2,070	390	2,307
Expenses—			
Taxes	20	13	78
Feed	.....	.....	109
Equipment repairs	58	.....	72
Building repairs	134	.....	135
Tractor and thresher	350	.....	108
Auto and truck	218	209	55
Hired labour	40	.....	147
Miscellaneous[1]	180	31	288
Total	1,000	253	992
Capital expenditures	104	84	544
Inventory change	−495	140	−10
Number of farms	2	1	3

[1] *Ibid.*

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